BROOME
COMMUNITY
COLLEGE

(formerly Broome Technical Community College)

1971-72
CATALOG

ARCHIVES CATALOGS

ACCREDITATION

Broome Community College is a member of the Middle States Association of Colleges and Secondary Schools.

The College is supervised by the State University of New York, and its curriculums are registered by the State Education Department.

The Chemical, Civil, Electrical and Mechanical Technology programs are ECPD accredited Engineering Technology curriculums. ECPD is the Engineers Council for Professional Development, a national organization of engineering societies.

The Dental Hygiene program is accredited by the Council on Dental Education of the American Dental Association.

The X-ray Technology curriculum is accredited by the American Medical Association.

The Medical Office Assistant curriculum has received double accreditation, from the American Medical Association and the American Association of Medical Assistants.

The College reserves the right at any time to make changes deemed advisable.

FOR INFORMATION about the college, its programs and its admissions procedure, contact

Director of Admissions
Broome Community College
Binghamton, New York 13902

Phone 772-5001
area code 607

1971-72 CATALOG
OF
BROOME
COMMUNITY COLLEGE

*(Formerly Broome Technical
Community College)*

Binghamton, N. Y. 13902

A Comprehensive Community College

Supervised by the State University of New York

and

Sponsored by the County of Broome

CURRICULUMS of the COLLEGE

OCCUPATIONAL PROGRAMS

The following curriculums are designed to prepare graduates for immediate employment:

BUSINESS

Accounting
Marketing Management
Executive Secretarial
Engineering Secretarial

ENGINEERING TECHNOLOGY

Chemical Technology
Civil Technology
Electrical Technology
Mechanical Technology

HEALTH SCIENCES

Dental Hygiene
Environmental Health Technology
Medical Laboratory Technology
Medical Office Assistant
Medical Record Technology
Nursing
X-Ray Technology

UNIVERSITY-PARALLEL PROGRAMS

These curriculums are designed to prepare graduates for transfer to four-year colleges and universities at the third, or junior, year:

Business Administration
Engineering Science
Liberal Arts and Sciences

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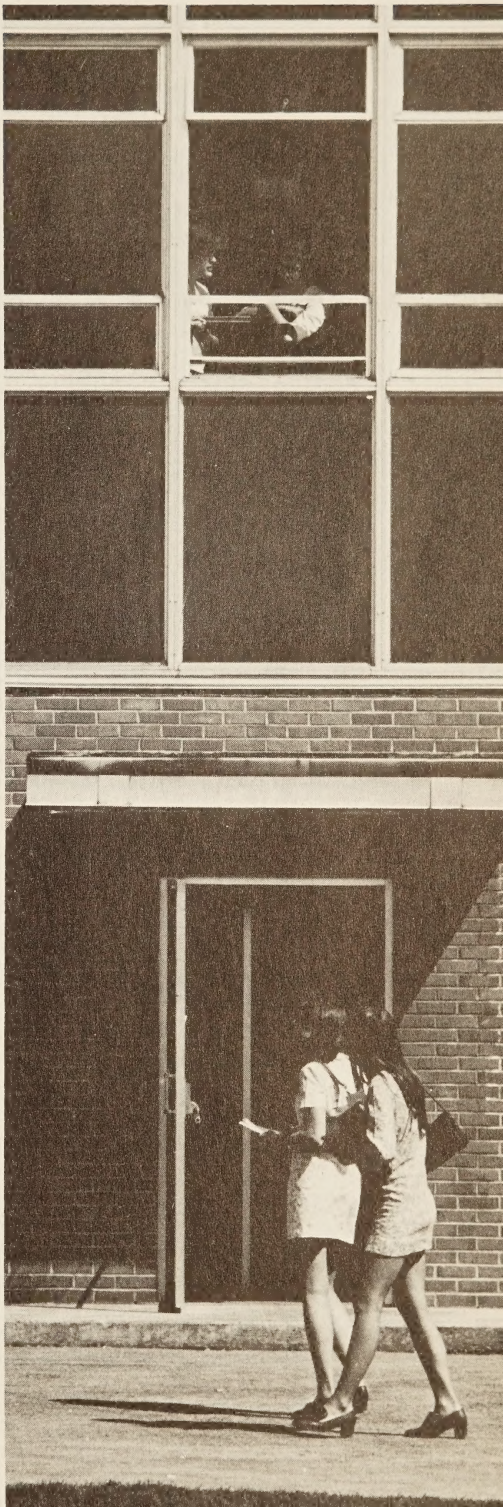


OBJECTIVES OF THE COLLEGE

1. To provide the environment and the experiences which promote the students' vocational competence, individual growth and social responsibility through integration of the following:

KNOWLEDGE. The acquisition of parts, principles, theories and insights which are fundamental to the understanding of a specialized field of study and of life itself. Cognizance of common sources of information for further intellectual growth.

PROFICIENCY. Development of analytical thinking and language abilities for the comprehension, evaluation and communication of knowledge. Development of laboratory techniques relevant to the students' chosen vocational fields.

ATTITUDES. The stimulation for personal growth—vocational, intellectual, cultural and physical. The appreciation of and commitment to desirable social values.

2. To commit the resources of the College to the business, industrial, educational and cultural enrichment of the community.

DEGREE PROGRAMS OF THE COLLEGE

Graduates of Broome Community College receive associate degrees, and the courses of study fall into four general categories—technical, business, liberal arts and health sciences. Liberal arts courses are included in all curriculums, as it is believed that students need more than technical competence to be successful.

Applicants to the College should consider carefully the type of program they wish to pursue, for the nature of the offerings makes it difficult for a student to switch from one curriculum to another after commencing his studies.

TECHNICAL PROGRAMS

In the area of technical education, the College offers five programs. One, Engineering Science, is in effect the first two years of an engineering curriculum, and students who do satisfactory work in it should experience little difficulty in transferring to engineering colleges at the third-year level.

The other four are designed to train engineering technicians in the fields of Mechanical Technology, Chemical Technology, Electrical Technology and Civil Technology. Graduates of these programs are prepared for immediate employment in various types of technical work upon leaving the college.

BUSINESS

The Business curriculum is designed primarily to prepare graduates for immediate employment in one of four fields—Engineering Secretarial, Executive Secretarial, Accounting, and Marketing and Sales. In addition, there is a fifth option, Business Administration. It combines more university-parallel preparation with a minimum of job-oriented courses for the person who plans to continue his college education for a baccalaureate degree, even though he may want to work for a while before transferring to a four-year college.

LIBERAL ARTS AND SCIENCES

This curriculm is a university-parallel course, designed especially for the student who wishes to transfer to a four-year college or university after graduation. A sound liberal arts education is basic to many of the professions, such as medicine, law or teaching, and applicants who have such a goal would be well advised to make this selection. It is also considered excellent preparation for further schooling in business administration.

Many students simply do not know what field to select as a goal. A liberal arts course may serve as a foundation from which a choice of major study can be made at a later date with a minimum loss of time.

NOTE—Students in all programs spend at least one-fourth of their time studying such Liberal Arts subjects as English, psychology, sociology and economics. The College recognizes that, in addition to technical competence, a graduate should study those subjects which help him to understand people and their daily working and personal inter-relationships.

HEALTH SCIENCES

Opportunities for men and women interested in the health services field are provided in seven areas—Dental Hygiene, Medical Office Assistant, Medical Record Technology, Nursing, Medical Laboratory Technology, X-ray Technology and Environmental Health Technology.

Graduates of six of these curriculums are prepared to work immediately after graduation in physicians' or dentists' offices, laboratories or hospitals, while the Environmental Health Technology students are trained to fill the growing number of jobs in controlling air and water pollution, in food sanitation and in ionizing radiation.

Graduates of these programs are also qualified to take whatever licensing examinations their professions require.

ADMISSION

A high school or state equivalency diploma is required for entrance to all curriculums. **All applicants must take the Scholastic Aptitude Test of the College Entrance Examination Board,** and must meet the minimum requirements of physical ability required by the occupational field in which they wish to engage. They must also be recommended by their high school principal or guidance counselor.

Application Procedure

Students are admitted at the beginning of the school year in the fall. However, applications will be processed at any time.

An application for admission must be made on official forms supplied on request by the Admissions Office.

A deposit of $10 must accompany each application. The deposit is non-refundable but is applied as an advance payment on the student activity fee if the application is accepted. Once a student is accepted, he will be billed for an advance payment of $50 on tuition. This is also non-refundable.

The Committee on Admissions may require an applicant to participate in an admissions counseling interview. Counseling interviews are not required of all who apply, but they may be requested by the applicant.

NOTE—Applicants who do not satisfactorily meet the entrance requirements may apply to enter the Collegiate Studies program. This preparatory year program provides opportunity for the student to strengthen his academic background so that he may enter any degree program of the College with a better expectation of successful accomplishment.

Readmission or Transfer

Applications for readmission or transfer to the College must be submitted to the Admissions Office prior to three weeks before the start of the term in which the applicant is requesting readmission. Applications received later than the above period may be returned to the applicant by the Director of Admissions without processing.

Transfer of credit from students who have been enrolled in other accredited colleges is subject to the approval of the chairman of the student's major department and the director of records. Grades earned at the college from which the student is transferring will not be entered into his cumulative grade-point average at Broome Community College. Students who have attended one or more other colleges must in all cases submit to the College Admissions Office an official transcript of work taken before formal acceptance will be granted.

Students transferring from other colleges will, as a general rule, be expected to complete a minimum of one year's work at Broome Community College, immediately prior to being granted the associate degree.

Credit by Examination

Advanced Placement Examinations and College Proficiency Exams:

Applicants who have completed any of the Advanced Placement Examinations sponsored by the College Entrance Examination Board or the College Proficiency Examinations sponsored by the University of the State of New York may apply for credit and advanced placement. Such requests will be handled in the same manner as transfer credit and will be granted where applicable, subject to the approval of the department chairman and director of records.

Entrance Requirements

In planning for college, it is advisable that each high school student enroll in a college preparatory curriculum. The following table should help in planning a high school program to prepare for admission to Broome Community College:

Curriculum	Recommended High School Subjects	Other Desirable High School Subjects
Business: Accounting Business Admin. Marketing Secretarial	*2 units Mathematics 2 units Science	College preparatory courses and Typewriting
Chemical Technology	Chemistry *3 units Mathematics including Trigonometry	Physics, Additional Mathematics, Technical courses
Civil Technology	Physics *3 units Mathematics including Trigonometry	Additional Mathematics, Technical courses
Dental Hygiene	*2 units Mathematics Biology, Chemistry	Social Studies, Typewriting
Electrical Technology	Physics *3 units Mathematics including Trigonometry	Additional Mathematics, Technical courses
Engineering Science	Chemistry, Physics *3½ units Mathematics incl. Advanced Algebra	Additional Mathematics, Science and Technical courses
Environmental Health Technology	*2 units Mathematics 2 units of Laboratory Science	Additional Mathematics and Science courses
Liberal Arts and Sciences	*2½ units Mathematics 4 units in any combination of science, language, or additional mathematics	College preparatory courses
Mechanical Technology	Physics *3 units Mathematics including Trigonometry	Additional Mathematics, Technical courses
Medical Laboratory Technology	*2 units Mathematics 2 units of Laboratory Science	Typing, Additional Mathematics and Science courses
Medical Office Assistant	*2 units Mathematics 2 units Science	Typing, Additional Mathematics and Science
Medical Record Technology	*2 units Mathematics 2 units Science	Typing, Additional Mathematics and Science
Nursing	*2 units Mathematics Biology, Chemistry	College preparatory courses
X-ray Technology	*2 units Mathematics 2 units of Laboratory Science	Typing, Additional Mathematics and Science courses

*Academic units of Mathematics such as Algebra, Geometry or Trigonometry.

EXPENSES

Tuition and fees are payable at the Finance Office. All students will be required to pay their tuition and fees for the first quarter prior to registration. Any refund is at the option of the College.

Tuition

For New York State residents	
With residency certificate (Payable $150 at the start of the first term and $150 at the beginning of the second and third terms)	$450 per year
Without residency certificate (Payable $300 at the start of the first term and $300 at the beginning of the second and third terms) See below for explanation of residency certificate.	$900 per year
For out-of-state residents (Payable $300 at the start of the first term and $300 at the beginning of the second and third terms)	$900 per year

After acceptance by the College, the student will be billed for an advance payment of $50. This will be applied toward the tuition payment for the first quarter, but it will not be refunded should the student withdraw either before or after registration. Tuition for all students is payable at the beginning of each quarter of the school year.

The responsibility for payment of tuition rests upon the student, and the student or his parent is billed prior to the start of each term. Students will be suspended from classes if the established due dates for payment are not met.

SEE PAGES 16 AND 17 FOR FINANCIAL AID.

Residency Certificate

To qualify for the resident tuition fee, a student is required by law to present once each academic year on or before registration a residency certificate indicating that he has been a legal resident of the State of New York for one year and of the county in which he resides for six months.

Broome County Residents—Full-time students admitted to the College will be mailed a copy of the application for residency certificate prior to registration. This application must be completed and presented at time of tuition payment.

Out-of-County Residents—Full-time students admitted to the College will be mailed a copy of the application for residency certificate prior to registration. The application must be completed, notarized and presented to the **County Treasurer of the county in which the student resides.** The County Treasurer will then issue a residency certificate to the student. This residency certificate must be presented at the time of tuition payment.

Part-time students must meet the same requirements as stated above. The application for residency certificate form is available at the Finance Office and the Office of the Director of the Continuing Education Division.

The completed residency forms are required once each academic year.

Fees

The following fees will be charged, with the College reserving the right to change any of them:

STUDENT ACTIVITY .... $40 per year

The $10 deposit required with the application becomes advance payment on the activity fee, if the applicant is accepted. The activity fee entitles students to admission to varsity games, dances and parties, as well as a subscription to the student newspaper and the opportunity to participate in a varied program of co-curricular activities, including intramural athletics.

HEALTH .... $33 per year

This fee covers the cost of the student health insurance program. If a student is covered under his family's health insurance, however, a statement to this effect will be accepted instead of the health fee, if the statement is signed by a parent or by the student, if he or she is of age. This statement should cite the name of the insurance program under which the student is covered, and it should be turned in to the Finance Office.

ACCIDENT .... $9 per year

This is a mandatory fee for all full-time day students. The policy covers the student for 12 months starting September 1, 1971, for expenses incurred in or out of any hospital, and regardless of any other insurance he or she has.

GRADUATION $10

This fee is paid at the start of the term preceding graduation.

ALUMNI LIFETIME MEMBERSHIP $20

Membership in the Broome Community College Alumni Association is optional. The lifetime dues are payable at the start of the term preceding graduation, and they entitle graduates to complete association benefits.

CHEMISTRY LABORATORY .... $10 per year for all students taking chemistry laboratory courses with 200 numbers.

Living Accommodations

The College has no dormitory facility and assumes no responsibility for student housing. As a service to students, the Student Personnel Office maintains an up-to-date record of housing accommodations which landlords submit as being available. But this constitutes neither approval nor rating by the College. Housing arrangements must be made directly by students and parents with local landlords.

All students not living with their families while enrolled at the College must register with the Student Personnel Office within a few days. In addition, they must complete the housing form for each address that they have while attending the College. This form must be signed by the parents or guardians thus showing their approval of the students' housing accommodations.

Room and Board

The cost of room and board for out-of-town students is dependent upon the demands of the student. The average cost varies from $30 to $45 per week.

Books, Supplies, Uniforms

Each student provides at his own expense the necessary books and instructional materials. These may be purchased at the College Bookstore maintained by the Faculty-Student Association for the convenience of the students. The cost varies, depending on the curriculum, from about $235 to $360 per year.

In addition, some curriculums require uniforms. Among these are Nursing, X-ray Technology, Medical Laboratory Technology and Medical Office Assistant. Gym clothes are necessary for physical education classes, which also have a $10 expense for bowling, a course requirement. Dental instruments and uniforms for Dental Hygiene students cost approximately $175.

ACADEMIC STANDARDS AND REGULATIONS

Requirements for Graduation

Common requirements for all three degrees granted by the College:

1. Quarter point average must total 8.60 for a six-quarter program or the equivalent
2. Recommendation of the faculty for the awarding of the degree
3. Satisfaction of all obligations to the College

THE ASSOCIATE IN APPLIED SCIENCE DEGREE

This degree is given to graduates of these curriculums:

Accounting
Chemical Technology
Civil Technology
Dental Hygiene
Electrical Technology
Engineering Secretarial
Executive Secretarial
Environmental Health Technology
Marketing Management
Mechanical Technology
Medical Laboratory Technology
Medical Office Assistant
Medical Record Technology
Nursing
X-Ray Technology

4. Degree requirements: a minimum of 96 quarter credits
5. Curriculum requirements:
    a) A minimum of 60 credits in a student's major field. These are courses intrinsic to and required by the various curriculums.
    b) A minimum of 30 credits in general education or liberal arts courses.
        1) Social Sciences: a minimum of 9 credits
        2) Biological and Physical Sciences (including Mathematics): a minimum of 9 credits
        3) Humanities: a minimum of 9 credits in English (composition and/or speech)
        4) Electives (or additional courses) in the foregoing fields comprising a minimum of 30 credits in the liberal arts and sciences or general educational areas
        c) Satisfactory completion of all courses in a curriculum or as approved in a department
6. Satisfactory completion of required Summer Hospital Radiographic Technique program for X-Ray Technology students and clinical laboratory experience for Medical Laboratory Technology students

THE ASSOCIATE IN SCIENCE DEGREE

This degree is awarded to graduates of the Business Administration and Engineering Science curriculums.

4. Degree requirements: a minimum of 96 quarter credits
5. Curriculum requirements:
    At least 45 credits in the humanities, natural sciences, mathematics, the social sciences

THE ASSOCIATE IN ARTS DEGREE

This degree is awarded to graduates in the Liberal Arts and Sciences curriculum.

4. Degree requirements: a minimum of 99 quarter credits (including physical education)

5. Curriculum requirements: a minimum of 72 credits distributed as follows:
    a) Social Sciences: a minimum of 18 credits
    b) Biological Sciences and Physical Sciences: a minimum of 12 credits
    c) Mathematics: a minimum of 9 credits (this requirement may be satisfied if candidate has completed 3½ units of secondary mathematics through Advanced Algebra or the equivalent)
    d) Humanities: a minimum of 27 credits, of which 18 shall be in English (composition, speech and literature) and 9 of which shall be in other subjects in the humanities
    e) Electives: 80% shall be in the fields of study listed above
    f) Physical Education: a minimum of 6 credits. Exception to this requirement may be made by the Dean of the College
    g) Satisfactory completion of all courses in a curriculum or as approved in a department

Grades

Grade	Honor Points Per Credit Hour	Explanation
A	4	Outstanding achievement in meeting the objectives of of the course
B	3	Above average achievement
C	2	Average achievement
D	1	Below average achievement
P	0	Poor achievement—no honor points
F	0	Failure to meet the objectives of the course
W	0	Withdrawal from course within first four weeks of term
I	0	Incomplete. Work to be made up within one week or by special arrangement with the department
S	0	Satisfactory. (Final grade for a non-credit course or a mid-term grade in a credit course to denote a student's progress.)

In order for a student to remain in good standing, he must also demonstrate a mature attitude, interest and cooperation.

Grades are issued at the end of each term. Students will also be notified of their academic standing at the approximate mid-point of each term. Satisfactory progress will be denoted by an "S" letter grade. Progress below average (below C) will be denoted by an appropriate letter grade.

Honors

At the end of each term, students who have earned an average of 3.5 or better are named to the President's List. Those with averages between 3.0 and 3.49 are placed on the Dean's List.

Academic Probation

A student is placed on academic probation for any of the following reasons:

If he does not earn a grade point average of:

1.2 the first term
1.4 the second term
1.5 the third and all other terms

OR

If he receives an "F" in any course.

Dismissal

Students may be considered for dismissal for the following causes: More than one consecutive probationary period, more than one failing grade in a term, failure to earn a point average of 1.0 in any term, irregular attendance, neglect of work or financial obligations, failure to comply with College rules and regulations or official notices, conduct unbecoming a student.

Action leading to the requested withdrawal of a student can be taken up by the Executive Committee. However, any student may petition his department staff to waive the academic requirements of the College leading to dismissal; such petitions are acted upon by administrative officers of the College upon their presentation by the department concerned. The College reserves the right to be the sole judge in all matters pertaining to dismissal.

Students who are dismissed from the College will not be permitted to enroll in the day school term subsequent to the dismissal action.

Attendance Regulations

The faculty of the College believes that attendance at all classes in which a student is registered is essential in accomplishing the objectives of the course. The instructor will deal with unexcused absences in whatever manner he feels appropriate toward meeting these objectives.

Withdrawal from the College

A student compelled to withdraw at any time must immediately notify the Student Personnel Office and complete the proper termination form. Failure to comply with this regulation may cause the individual to forfeit his right to honorable dismissal and to lose any refund of fees.

A student who withdraws from the College will receive a W grade in each course, with these exceptions:

If his withdrawal is in the first two weeks, he may receive no grade at the discretion of the director of records. If he has been in class more than four weeks, his grade will be an F upon the request of the department chairman. And if he has completed the course, his grade will be that reported by the instructor.

Withdrawal from Courses

Permission to withdraw from courses must be secured from the student's department chairman or his faculty advisor.

A student permitted to withdraw from a course during the first two weeks of the term will have no indication of such registration on his permanent official college record.

If a student is permitted to withdraw during the third or fourth week, he will have W's entered on his permanent record.

If a student is permitted to withdraw from a course beyond the fourth week, he will receive an F grade. If, for reasons of health or circumstances beyond his control, the student is counseled by his department chairman and the Dean of the College to drop a course, he will receive a W.

JOB PLACEMENT

Many companies send representatives to the campus each spring to interview seniors about jobs immediately after graduation. This practice has grown to the point where between 25 and 75 concerns conducted job interviews in each of the last few years.

Leading national corporations, as well as many local companies, were among those interested in Broome CC graduates. The list included such major area employers as International Business Machines, New York State Electric & Gas Corp., Link Division of Singer-General Precision, Inc., GAF and practically all the banks in Broome County.

Such firms as Eastman Kodak, Xerox, DuPont, Argonne Laboratories, American Can Co., Dow Chemical and Corning Glass represented the national scene.

The job interviews are especially directed toward students in the occupationally-oriented Business program and the Electrical, Mechanical, Civil and Chemical Technology curriculums.

In cooperation with the department chairmen, the Student Personnel Office coordinates permanent placement, including employment listings and appointments for interviews.

Transfer to Senior Institutions

Students desiring to transfer are encouraged to consult with their faculty advisor, department chairman or a counselor in the Student Personnel Office for assistance in selecting colleges that are appropriate for their goals and demonstrated college achievement.

Broome Community College will not as a general rule encourage students who have less than a C (2.0) average to transfer to other colleges.

An applicant for transfer who will not complete the requirements for the associate degree at Broome Community College prior to the time of anticipated transfer may not be recommended for transfer, if the faculty of the College feels the applicant has not completed a desirable breadth or depth of study to provide suitable criteria for measuring academic ability.

The following procedures are to be observed by students desiring transfer:

1. Initiate the application to transfer. Application forms for colleges in the State University of New York are available in the Student Personnel Office at Broome Community College. Students should apply directly to all private and out-of-town four-year colleges, and all applications should be submitted during November and December of the second year at Broome. After these dates the application may be deferred or returned due to lack of space.
2. Fill out Section I (in duplicate) of the Transfer Record Form in the Student Personnel Office. Students in Liberal Arts and Sciences, Engineering Science and the Business Administration curriculums will be requested to complete the Transfer Record Form regardless of their intention to transfer immediately upon graduation from Broome.
3. Complete a Request For Transfer of Academic Record Form in the Student Personnel Office for each college to which they are applying.
4. Forward request for references or recommendation forms from other colleges to the Student Personnel Office.
5. Report acceptances and rejections from all colleges to the Student Personnel Office.

Please review these procedures carefully. Omission of any step may result in a delay of your records being forwarded to another college. If you have any questions regarding the above procedure, go to the Student Personnel Office.

Auditing Courses

College policy does not permit registration for the purpose of "auditing" courses.

Late Registration

An applicant may not register later than one week after the beginning of the fall term except by permission of the Dean of the College.

NUCLEAR PHYSICS LABORATORY

One of the most modern facilities at Broome CC is the Nuclear Physics Laboratory, which is an example of the College's constant effort to provide the most up-to-date education available. The laboratory is used to introduce seniors in the Engineering Science curriculum to the nuclear physics field, and Chemical Technology seniors use it in their advanced quantitative analysis course. They learn the most modern methods being employed in industry and science, as there are now many industrial uses for radioactive materials. Some courses in the College's X-ray and Medical Laboratory Technology curriculums are given in the laboratory.

A $12,000 grant from the Atomic Energy Commission provided the funds to equip the laboratory.

Length of Curriculum

All associate degree programs are two years in length. The college year is divided into four quarters or terms of approximately 10 weeks each plus an examination week. X-ray Technology students must take courses during two summers, and Medical Laboratory Technology students must complete two quarters of clinical laboratory experience. Students in the other curriculums spend three quarters on campus each year, with their summer vacation coming in the fourth quarter.

Repeating Courses

A student who wishes to repeat courses already taken at Broome should secure permission from his department chairman or advisor and should ask that the college policy on repeating courses be explained.

All courses in which a student registers will be shown on his permanent record subject to the conditions of the withdrawal policy. Thus if a student repeats a course, both enrollments and both grades will appear. When a student repeats a course, the most recent grades and honor points earned will be used to determine his term and cumulative averages.

FINANCIAL AID

More and more financial aid is becoming available for young people seeking a college education, with the result that fewer men and women are being denied the advantages of higher education because of the costs.

Financial aid at Broome Community College falls into three broad categories—awards, loans and part-time work. The awards are scholarships and grants that do not have to be repaid; the loans must be paid back but the repayment plans are lenient and the interest rates low; part-time work is arranged through the College and coordinated with the student's academic schedule.

The College has a financial aids brochure with more detailed information than appears here. This brochure is available from the College financial aids counselor in the Student Personnel Office (Room A-101).

The College is affiliated with the College Scholarship Service (CSS) of the College Entrance Examination Board. Participants in CSS subscribe to the principle that the amount of financial aid granted a student should be based upon financial need. The CSS assists colleges and universities by analyzing the student's need for financial assistance.

Entering students seeking scholarship assistance are required to submit a copy of the Parents' Confidential Statement (PCS) form by April 15 to the College Scholarship Service, designating Broome Community College as one of the recipients. The PCS form may be obtained from the College, a secondary school or the College Scholarship Service, P. O. Box 176, Princeton, New Jersey 08540.

THE BROOME COMMUNITY COLLEGE FOUNDATION

The College has established this Foundation to help students overcome economic barriers to higher education. It has established a Scholarship Fund by enlisting the cooperation of industries, organizations and individuals in the community. Their contributions are administered by the Foundation to assist needy and qualified students. During the 1970-71 college year, the Foundation awarded $40,749 to 133 students. This was an increase of more than $2,000 over the previous year.

The Foundation also collects and distributes funds to aid in the improvement and growth of faculty capabilities, thus enabling faculty members of the College to take graduate work and to attend seminars, workshops and conferences in their fields.

AWARDS

Scholar Incentive Awards

Many students attending Broome Community College who are New York State residents are eligible for a Scholar Incentive Award. This award is a direct grant payable to the student each term, and it may amount to as much as $250 for the academic year, depending upon the net taxable income of the student's family.

It is the individual student's responsibility to obtain and complete the necessary application forms. These may be obtained from the financial aids counselor in the Student Personnel Office (Room A-101) or from the University of the State of New York, the State Education Department, Regents Examination and Scholarship Center, Albany, New York 12224. For fall term benefits, it is recommended that applications be filed before mid-September. Applications will be accepted after that, but students should heed the mid-September date to avoid delays in receiving Scholar Incentive Award checks. Students must apply once a year.

Students who are eligible for these awards must pay full tuition upon registering. Their award checks will be remitted to the student by the Finance Office when received from the state. The Award Certificate sent to each student from Albany is not acceptable as a credit toward tuition.

Details are available from the financial aids counselor in the Student Personnel Office (Room A-101).

New York State Regents Scholarships

Recipients of New York State Regents Scholarships may use them at the College, although the Regents Scholarship for Engineering and Scientific Studies is applicable only to the Engineering Science Program.

Federal Government Grants

Educational Opportunity Grants are available to exceptionally needy students under provisions of the Higher Education Act of 1965. These grants vary between $200 and $1,000 for the academic year, depending upon need. Applicants must submit a Parents' Confidential Statement prior to April 15.

Service veterans with at least six months of active duty since January 31, 1955 are eligible to receive at least $175 a month (more if they have dependents) for full-time study from the Federal government, under the Veterans Education and Training Amendments Act of 1970. Beneficiaries of this financial aid should be aware that they will probably not receive their first monthly payment until about two months after the start of the fall quarter. Recipients of this financial aid are not eligible for Regents Scholarships.

Nursing Educational Opportunity Grants are available to students in the College's degree-granting Nursing program. These grants vary in amount from $200 to $1,500, depending on the students' financial need, and this program is funded by the Federal Government.

More information is available from the financial aids counselor in the Student Personnel Office (Room A-101).

LOANS

The two major sources of loan funds available to students of the College are the New York State Higher Education Assistance Corp. (also known as the Guaranteed Loan Program) and the National Defense Student Loan Program. Both provide long-term loans, not exceeding $1,000 per year, to students demonstrating financial need. Repayment of principal or interest for either type loan is not required until the student ceases his full-time college career.

Limited loan funds are available, too, for Broome County residents through the Parker Foundation. The College, moreover, is participating in the Federal Nursing Student Program. Details of the entire loan program may be obtained from the financial aids counselor in the Student Personnel Office (Room A-101).

WORK OPPORTUNITIES

College Work-Study Program

The College Work-Study Program is available to all students who demonstrate financial need as defined by the Federal Government. Special emphasis is directed to students from low income families.

Work assignments vary within the College and include work in maintenance, laboratories and offices. The prevailing student wage for campus jobs is paid. During the normal school year, work assignments are limited to 15 hours per week and during the summer 40 hours per week.

Applications for the College Work-Study Program may be obtained from the financial aids counselor in the Student Personnel Office (Room A-101).

Part-Time Jobs

Part-time work is also available at times throughout the academic year, aside from the College Work-Study Program. These jobs are both on and off-campus. Students desiring work should consult the financial aids counselor in the Student Personnel Office (Room A-101).

ABOUT BROOME COMMUNITY COLLEGE

THE COLLEGE

Broome Community College is a comprehensive two-year college. It has programs designed to prepare graduates both for immediate employment and for transfer to four-year colleges and universities at the junior, or third-year, level.

In addition to its daytime enrollment, which numbered more than 2,000 last year, the College has a Continuing Education Division which had more than 1,700 part-time evening students in the fall of 1970 and over 1,000 taking courses during the 1970 Summer Session.

The College is co-educational, publicly-supported, and has historically attracted about two-thirds of its student body from Broome County and one-third from outside the county. The ratio has recently become closer to 75% and 25%.

The day student body can be classified into four parts, based on study objectives—university-parallel or transfer programs, the business program, engineering and engineering technology curriculums, and health science courses.

The College is sponsored by Broome County, supervised by the State University of New York, and accredited by both professional and educational organizations (See inside front cover).

THE CAMPUS

The College campus is located three miles north of Binghamton on Upper Front Street, which is Route 11 and Route 12 at this point running alongside of Interstate 81. Eight of the nine buildings form a quadrange to make a compact campus layout.

Most of the buildings are two stories high, of modern functional design, and made of brick with colored panel-wall facing. They lie in a suburban setting in the virtual center of the College's 62 acres of land.

In addition to classrooms and laboratories, the campus has its own cafeteria, gymnasium and athletic field, and a Little Theater. These facilities add up to make the campus a $6,000,000 investment in the youth of Broome and surrounding counties. This investment will be more than tripled in the next few years, as the College's expansion program is being developed.

THE COMMUNITY

The community is an industrial and agricultural area in New York State's Southern Tier. It is in the approximate center of the state, measuring from east to west, and its southern extremity touches the Pennsylvania state line.

Binghamton is the principal city in Broome County, but it is only a part of the community known as the Triple Cities. Endicott and Johnson City are the other two cities, but Vestal and other outlying suburbs help to make the community much larger in population and geography than the city of Binghamton.

Binghamton has a population of 64,123, yet the Triple Cities area embraces 155,522 people. The population of Broome County is 221,815. Diversified industry in the community includes such firms as IBM, General Electric, Singer-Link, GAF, New York State Electric & Gas Corp. and Endicott Johnson.

The College has become an integral part of the community since it was started in 1947. Many of the campus facilities are offered without charge for use by responsible organizations, and most of the College's curriculums are designed to help fill the economic needs of the county.

GROWTH AND EXPANSION

The rapid growth in student enrollment in recent years has made it necessary for the College to embark on an extensive expansion program. A new library building was opened during the 1967-68 school year, and two other new buildings were to have ground broken before the start of the 1971-72 college year, as part of the College's multi-million dollar expansion program to enable it to accommodate an anticipated student body of 3,200.

The campus was constructed in 1956 to accommodate 900 students, which was about three times the College's enrollment at that time. The student body reached double that 900 capacity in 1968.

HISTORY

The College graduated its first class in 1949. These students had entered what was then known as the New York State Institute of Applied Arts and Sciences at Binghamton in the fall of 1947. The original institute was one of five founded in the state in 1946, following the pattern of six agricultural and technical institutes which New York had established earlier in the century. The first programs offered were all occupational in nature and included Chemical, Electrical and Mechanical Technologies, as well as Medical Office and Technical Office Assistant courses.

In 1953 New York relinquished operating control of the school to a new sponsor, the County of Broome, under provisions of the newly-enacted State Community College Law, and the name was changed to Broome County Technical Institute. In 1956 the name was again changed, to Broome Technical Community College, to reflect the increasingly comprehensive nature of the educational offerings. This year the name has become Broome Community College as the scope of the curriculums continued to expand.

In keeping with the comprehensive objectives of this community college, a university-parallel curriculum was instituted in the Engineering Sciences in 1959, a two-year program of Liberal Arts and Sciences started in the fall of 1962, and a transfer program in Business Administration begun in 1963.

X-Ray Technology was added in 1965, Medical Laboratory Technology in 1966, Nursing and Environmental Health Technology a year later, and Medical Record Technology in 1969.

For its first five years, the school was housed in a refurbished State Guard armory in downtown Binghamton. This building was gutted by fire in September of 1951, and for the next five years Kalurah Temple and two other buildings in the city provided temporary quarters. In 1957 the college moved to its present campus on the north side of Binghamton on Route 11. The first addition to the original campus came with the construction of Titchener Hall, which was dedicated on May 17, 1963. A temporary classroom building was added in 1966 and the Library Building a year later.

THE LIBRARY

A new $1,500,000 Library Building was opened during the 1967-68 college year. The College Library occupies the top two floors of this three-story building, so that its capacity has been increased to 900 readers and 75,000 volumes.

Since 1947 the library has developed the most complete collection of technical works in the Southern Tier, consisting of about 30,000 books, pamphlets and government documents. Additions are currently emphasizing such areas as liberal arts, business and health sciences to reflect the College's broadened scope of curriculum offerings.

Extensive files of periodicals and journals, recordings and prints of well-known paintings are also included in the library's holdings.

Part of the library's purpose is to stimulate intellectual curiosity, to promote independent research, and to provide leisure-time reading facilities for students and faculty.

The library is open evenings during the college year and therefore is also available for evening division students. There are also library hours on Saturday mornings and Sundays in the late afternoon and evening.

STUDENT CENTER

The busiest and most versatile building on the Broome CC campus is the Student Center. It houses the gymnasium, the College Cafeteria, Bookstore, Faculty Dining Room and the Little Theater. This building is used by day and evening students of all curriculums.

CO-CURRICULAR ACTIVITIES

The College recognizes the fact that student experiences outside the classroom are important in one's over-all development. For this reason the College supports an active co-curricular program as a complement to classroom studies. The variety of activities on the campus reflects the diversification of student interest and provides the opportunity for students to develop talents, leadership ability and a sense of social responsibility.

Co-curricular activities are guided by two faculty-student committees—the Student Activity Board of Control for the College's non-athletic program and the Athletic Board of Control for sports.

Student Senate

The Student Senate, the governing body in student affairs, is the heart of the co-curricular activity program. The officers, elected from the student body, and the representatives from the various curriculums promote and co-ordinate the student activities. The Social Committee is one of the important Student Senate committees, as it is responsible for the extensive social program of the Senate.

Music

The College has a fine history of student-singing organizations, such as the College Choir for men and women. These musical organizations have sung frequently at State University of New York choral festivals, as well as for church and civic organizations. All students, as well as faculty and staff, are welcome to sing in the choir.

Honor Societies

Phi Theta Kappa

In 1962 the Mu Eta chapter of Phi Theta Kappa was established at the College. Phi Theta Kappa is a national honor society at junior colleges, similar in purpose to Phi Beta Kappa at the four-year colleges and universities. Mu Eta chapter is open to freshmen and seniors at Broome CC who have achieved outstanding academic grades, been especially active in co-curricular participation, demonstrated outstanding qualities of leadership and responsibility, and made noteworthy contributions to the College.

Sigma Phi Alpha

The national dental hygiene honor society, Sigma Phi Alpha, has a chapter at Broome CC, the Upsilon chapter. Senior Dental Hygiene students who rank highest in scholarship and character and who exhibit potential qualities for future growth and attainment are selected for membership.

Publications

The Fulcrum is the campus newspaper and the **Citadel** is the College yearbook. Positions on both publications are open to all students.

The Fulcrum's purpose is to report news of the campus, student body and faculty. It also provides a place for students to express their ideas about campus activities and about events related to college life.

The Citadel provides a record, mostly pictorial, of the school year.

Professional Society Affiliates

Since exposure to organizations in their fields of study is considered of benefit to students, many curriculums have their own affiliates of national professional societies. Among these are:

SME, the Society of Manufacturing Engineers, for Mechanical Technology students.

A collegiate chapter of the Administrative Management Society, mainly for Business students although all are welcome. Its abbreviation is CAMS.

Civil Technology Association aims to pursue in greater depth than the classroom permits the many phases of the field.

Dental Hygiene Association, an affiliate of the American Dental Hygiene Association.

Broome CC Chapter Future Secretaries Association, affiliated with the National Secretaries Association (International) Binghamton Chapter.

IEEE, the Institute of Electrical and Electronics Engineers, for Electrical Technology students.

Medical Assistants Association is designed to give members a closer look at their field, as well as supply them with some social relaxation too.

In addition, some meetings of local professional societies are attended by students, as the American Chemical Society invites Chemical Technology students to its meetings. Some professional societies hold meetings on campus, too, and students are always welcome to attend. Thus students have the opportunity to become acquainted with professional people in their fields of study and to attend lectures and see films and demonstrations of new developments.

Other Clubs

In addition to the co-curricular activities already listed, other organizations are active on campus, such as the Art Club, Camera Club, Circle K, Sigma Epsilon Chi, Rotaract, Newman Association, Broome CC Players, Outing Club, Rifle Club, Ski Club, Social Activities Committee, Veterans Club, and the cheerleaders. All are open to all students in good standing. Details on the purposes and requirements for membership in all clubs are available in the Student Handbook.

ALUMNI

Graduates who are working in the area are urged to take advanced courses offered in the Division of Continuing Education's evening program.

Transcripts

Each graduate is entitled to two transcripts of his work completed at the College. One dollar is charged for each additional transcript.

Alumni Association

All students of the College may become paid-up lifetime members of the Broome Community College Alumni Association, which is legally a division of the Faculty-Student Association so that it too is organized on a non-profit corporate basis.

The association has its own officers, board of directors and paid executive secretary, and its primary purpose is to provide a link between the College and its graduates. A quarterly printed Alumni Newsletter helps to accomplish this objective by providing alumni with news of the College as well as information about other graduates.

The Alumni Association supports the College's scholarship program and conducts programs for its members throughout the year, such as the annual Alumni Dinner-Dance.

ATHLETICS

Varsity Sports

The College fields varsity teams in seven sports—basketball, soccer, baseball, cross-country, golf, tennis and wrestling—and has acquired an excellent reputation for team play and sportsmanship.

The basketball team has captured the regional junior college title in nine of the last 15 years and has won 536 games and lost 148 for a .784 percentage. The baseball team has won two regional tournaments, and the cross-country, golf, tennis and soccer squads have also been regional powers in the past.

Intramural Sports

All students may participate in intramural sports. Men's teams representing the various curriculums compete for the coveted President's Trophy, awarded annually to the one acquiring the most points in a variety of activities. League competition is conducted in flag football, basketball, volleyball, soccer and softball, while students also compete in individual sports such as golf, badminton, archery, tennis, cross-country and bowling.

Archery, skiing and co-educational bowling clubs offer additional opportunity for participation in recreational activities, although they do not count in President's Trophy competition.

Women's Sports

The College also has a varied sports program for women students. In addition to the Physical Education classes, there are intramural competition and All-Sports Days.

Intramurals are contested in volleyball, badminton, tennis, archery, basketball, softball and bowling. A Dean's Trophy is awarded to the winning team, similar to the President's Trophy for the men's intramurals champion.

The All-Sports Days consist of competition in varied sports against women's teams from other colleges, both at home and away.

HONOR AWARDS

American Chemical Society (Binghamton Section) Award of $50 to the outstanding senior in chemistry.

American Society for Testing and Materials (Binghamton Chapter) Award of a one-year membership in the society to a Mechanical or Civil Technology senior who has shown superior scholastic ability and an interest in testing or in materials.

Binghamton Chapter, New York State Society of Certified Public Accountants Silver Award of a silver tie pin to the outstanding accounting student who is planning to continue his accounting career at a four-year college or university.

Broome County Chamber of Commerce Award of an engraved certificate to two seniors (a man and a woman) for leadership in co-curricular activities and for satisfactory academic achievement.

Broome County Women's Republican Award of $25 to an outstanding student in history.

Collegiate Administrative Management Society Chapter Award of five inscribed pewter bowls to the outstanding students, academically, in each of the five options of the Business Division.

Colonial TV Award of a $25 gift certificate to an Electrical Technology senior who has shown outstanding ability in laboratory work.

French Embassy Awards to the six best French language students. Donated by the French Embassy.

U.S. Greene Mathematics Award of $50 to a senior for showing a high degree of ability and progress in mathematics.

Institute of Electrical and Electronics Engineers (IEEE) Award of $50 from the Binghamton Section of IEEE to an Electrical Technology senior who has shown outstanding ability and leadership in the IEEE chapter. The student must be in the top quarter of his graduating class, and he will also receive an IEEE certificate from the national office.

International Material Management Society (Southern Tier Chapter) Award of $75 to a Mechanical Technology senior who has demonstrated an interest in material handling, mechanical engineering or industrial engineering and who plans to make a career of one of these fields.

Ladies Auxiliary of the Broome County Area Chapter of the New York State Society of Professional Engineers Award of a $100 scholarship to an Engineering Science senior who has shown a high degree of engineering ability. Financial need is a factor in selecting this recipient.

Mallinckrodt Chemical Works Award of an engraved silver platter to the academically outstanding freshman in the X-ray Technology curriculum.

Sales and Marketing Executive Club of the Southern Tier Award of a $200 scholarship for one person or $100 each to two freshman students in the marketing program on the basis of need and academic performance. Recipient must be a Broome County resident.

Society of Mechanical Engineers Award of the Tool Engineers Handbook to a senior in the student SME Chapter who has contributed outstanding service.

Stevenson Medal, given by the New York State Dental Society, to the Dental Hygiene student who possesses in the highest degree the qualities considered necessary for success in this work, such as theory, technique and personality.

Triple Cities Radiologic Technologists Society Award of the three-volume text "Atlas of Roentgenographic Positions" to an X-ray Technology student for special achievements.

Upsilon Chapter of Sigma Phi Alpha (National Dental Hygiene Honor Society) Award of membership in the chapter. Limited to the top 10 percent of the Dental Hygiene graduates who rank highest in scholarships and character.

William E. Wilson Memorial Award to a Civil Technology senior for academic achievement and citizenship.

CONVOCATIONS

Speakers in a diversity of fields are brought to the campus during the school year as part of the College's convocation program. These convocations are considered a phase of the academic curriculum, although they are scheduled apart from the regular classroom program.

Such nationally known figures as Dr. Henry Kissinger, President Nixon's top advisor for foreign policy; consumer crusader Ralph Nader; James Farmer, former director of CORE; syndicated advice columnist Ann Landers and civil rights leader Julian Bond have spoken at convocations.

Other noted speakers who have been here for convocations include television writer Rod Serling, former Congressman Walter Judd, the late Norman Thomas, James Meredith and author Vance Packard.

FACULTY-STUDENT ASSOCIATION

The Faculty-Student Association of Broome Community College, Inc., is an educational corporation designed to provide to the College, and particularly to the students and faculty, services that are not provided for in the regular College budget.

It provides the corporate organization through which the student fees are expended under a budget prepared by the Student Senate and such other organizations as the Athletic Board of Control and the Convocation Committee. It also operates the College Bookstore and cafeteria.

Through the modest earnings of the bookstore the income from student fees is augmented to support new or special activities and to obtain needed equipment.

The association is governed by a board of directors elected by members who hold certain offices on campus.

The operating philosophy is to make the educational program outside of the classroom a well-rounded supplement to the academic experience of the student.

DIVISION OF CONTINUING EDUCATION

Credit courses for adults are offered year-round during the evenings and during the Summer Day session. An adult may enroll in any evening course if, in the College's judgment, he has the ability to do college-level classwork and if he has the necessary prerequisites for the course. Full details about these programs are contained in the catalog available on request from the College's Division of Continuing Education. Call 772-5012.

Evening Session

Evening courses lead to various evening diplomas (32 semester credit programs in Business; Chemical, Civil, Electrical, and Mechanical Technologies; Police Science and Production Management; as well as General Studies). These diplomas are the bases of required study for the Associate in Applied Science Degrees in Business, Industrial Technology and Police Science and for the Associate in Arts degree. The evening term begins September 7, 1971 and January 24, 1972.

Responding to special interests and community needs, the College has instituted the Resource Development Programs (RDP). These are short courses of three and six sessions each—short compared to the normal 15 weeks of the regular credit courses in the evening and Saturday program.

Catalogs of courses and programs are available from the Division of Continuing Education.

Summer Session

Summer credit courses, many of which can be accepted by other colleges for transfer, are available during the days and evenings. Developmental and college preparatory subjects are also available as non-credit offerings. Summer semesters are scheduled to start on June 21, 1971 and June 26, 1972. Summer Session catalogs may be obtained from the Division of Continuing Education.

Part-Time Day Students

Enrollment as part-time day students will be on a strict space-available basis. Registration will be conducted by the Division of Continuing Education and generally will be held on the Friday prior to the first day of the term at 8 a.m. in the Student Center. Late registration will be accepted only during the first five class days of the term.

Individuals may register for part-time day enrollment for a maximum of 6 term credit hours or two courses by applying directly to the dean of the Division of Continuing Education at registration time. Only in exceptional circumstances will applicants be permitted to enroll for a maximum of 12 term credit hours, subject to the approval of the Admissions Committee of the College. Broome Community College graduates, however, need only have prior approval from the department chairman.

A part-time day student will not be permitted to enroll in the subsequent day term if in day courses he has received two "F" grades, two "P" grades, or a "P" and an "F" grade in one day term or in two consecutive day terms. Exceptions to this policy may be considered for unusual circumstances. In these cases students must petition in writing the dean of the Division of Continuing Education, who will make final determination.

Part-time students who withdraw from courses must complete the proper termination procedures at the Division of Continuing Education office.

All individuals admitted on other than a full-time basis will be subject to policies governing students in the Division of Continuing Education, in addition to regulations governing full-time students. Such enrollment does not automatically make the enrollee a candidate for an associate degree.

Tuition and Fees for Part-Time Day Students

Residents of New York State will pay $11.33 per quarter credit hour as tuition for courses they enroll in. Out-of-state residents must pay $22.66.

There is also a student activity fee of $2 per term for each part-time student enrolled in day classes. This entitles these students to admission to convocations and to issues of the student newspaper. It does not, however, include admission to varsity sports events nor to copies of The Citadel, the College yearbook, or membership in student organizations. The student has the option, though, of paying $10 per term and receiving the same activity privileges as full-time students with the exception of receiving a copy of the College yearbook.

In no case should a student be charged more than the full-time student activity fee of $40 per academic year.

A fee of $10 is charged per term for part-time students taking 12 or more academic hours. This entitles the student to the same activity privileges as full-time students with the exception of receiving a copy of the College yearbook. Out-of-county residents will need residency certificates. See page 8. Broome County residents may complete residency forms at registration.

AUDIO-VISUAL AIDS

Students and faculty have many audio, visual and audio-visual aids at their disposal through the Audio-Visual Center. These can be used for classroom or co-curricular purposes, and they include portable TV tape recorder, films and film strips, a preview room, an art workshop, tape recorders, transparent and opaque overhead projectors, as well as slide projectors.

The center makes signs and posters, handles the ordering, distributing and locating of films for faculty members, and provides the materials and assistance in the art workshop.

The College's photo and duplicating facilities are also part of the Audio-Visual Center.

SPECIAL PROGRAMS

COLLEGIATE STUDIES CERTIFICATE PROGRAM

Students who either lack the minimum requirements for admission to the degree programs of the College, or those who have been out of school for several years, may request enrollment in the Collegiate Studies Certificate Program. This is a year-long sequence of study emphasizing the fundamental concepts of English, mathematics and science. Students in this program are considered regular college students. These students are eligible for all campus social events and co-curricular activities, except varsity athletics. At the end of the year, students are evaluated by the faculty and must be recommended for entrance to a degree program before being admitted in the subsequent year. This was formerly known as the Pre-Tech program.

DIPLOMA NURSING

Nurses in the diploma training program at Binghamton General Hospital take part of their first year of study at Broome Community College. Under this program these students may participate in all activities of the college except varsity athletics.

CURRICULUM OUTLINES

BUSINESS

The Business Division offers courses of study in five different options. These are Engineering Secretarial and Executive Secretarial, Accounting, Marketing Management and Business Administration. The first four are designed to prepare graduates for immediate employment, while the Business Administration option is for students planning to continue their education at a four-year college or university.

It is possible to transfer from all programs. But because each student's transfer credits are evaluated by the four-year institution, the number of credits accepted can vary. Any student planning to transfer should maintain a minimum 2.5 grade point average.

Administratively, two departments cover these five options. Accounting, Marketing Management and Business Administration are in the Administrative Management Department; the Engineering Secretarial and Executive Secretarial programs comprise the Secretarial Sciences Department.

These programs were planned with the assistance of businessmen, accountants, administrative managers, comptrollers, auditors, sales managers, engineers and secretaries.

Employment in business and industry, as well as management training programs offered by banks, chain stores and insurance companies, provide some of the best opportunities for a graduate of the Accounting and Marketing Management options.

OCCUPATIONAL PROGRAMS

Engineering Secretary

Graduates of this option can obtain immediate employment as stenographers, secretaries or private secretaries. Students in this option study science and engineering terminology in addition to their business courses. Therefore, they can understand the specialized language of engineering and are well prepared to work on engineering reports, records and correspondence.

Executive Secretary

Graduates of this option can obtain immediate employment as stenographers, secretaries or private secretaries. Students in this option may elect courses from other fields of study in the College consistent with their interests and vocational goals. Therefore, they can understand the specialized language used in the professions, as well as in government and business firms.

Accounting

Students taking this option receive their training in such basic areas as cost accounting, internal auditing, machine accounting and tax accounting. Graduates have successfully taken positions in banks, industrial firms, public accounting and private business.

Marketing Management

Training is given in sales, advertising, management and research. Employment is generally found in sales of services, equipment, insurance, products at the wholesale level, and management training positions.

TRANSFER PROGRAM

Business Administration

The option is designed specifically to prepare graduates to continue their business studies at a four-year college or university. While offering maximum transfer potential toward a bachelor's degree in accounting or business administration, it still gives students preparation for employment if they decide to work instead of seeking their baccalaureate degrees.

ADMINISTRATIVE MANAGEMENT DEPARTMENT

1st YEAR

for curriculum options in

- **Accounting**
- **Business Administration**
- **Marketing Management**

			Hours Per Week		
			Class	**Lab**	**Credits**
Term 1					
BU	101	Accounting	4	0	4
BU	141	Business Mathematics	3	0	3
BU	145	Business Law	3	0	3
LA	255	Economics	3	0	3
LA	801	English	3	0	3
		*Mathematics or alternate course	3	0	3
			19	0	19
Term 2					
BU	102	Accounting	4	0	4
BU	146	Business Law	3	0	3
BU	151	Business English	3	0	3
BU	292	Marketing	3	0	3
LA	256	Economics	3	0	3
LA	802	English	3	0	3
			19	0	19
Term 3					
BU	103	Accounting	4	0	4
BU	130	Introduction to Electronic Data Processing	3	0	3
BU	142	**Business Statistics or MA 101 Mathematics	3	0	3
LA	257	Economics	3	0	3
LA	803	English	3	0	3
LA	804	**Effective Speaking or PH 101 Phys. Science	3–2	0–2	3
			19–18	0–2	19

*MA 100 Mathematics for students who did poorly in Elementary Algebra or who have been away from it more than four years. MA 101 Mathematics for students who have passed Elementary Algebra or MA 100 Mathematics. An alternate course will be chosen by the department for students who have passed Intermediate Algebra or Math 11 in secondary school, or MA 101 Mathematics.

**Students who choose the Business Administration option will take LA 804 Effective Speaking and those who passed MA 100 Mathematics in the first term must now take MA 101 Mathematics instead of BU 142 Business Statistics. Accounting and Marketing Management students will take BU 142 Business Statistics and PH 101 Physical Science.

Accounting Option

2nd YEAR

			Hours Per Week		
			Class	Lab	Credits
Term 4					
BU	204	Intermediate Accounting	4	0	4
BU	207	Cost Accounting	4	0	4
BU	230	Business Data Processing	2	2	3
BU	251	Office Management	3	0	3
BU	252	Business Report Writing	3	0	3
BU	160	Typewriting (Elective). It is strongly recommended that all students who have not passed Regents Typewriting or equivalent elect this course.	0–0	5–0	2–0
			16	7–2	19–17
Term 5					
BU	205	Intermediate Accounting	4	0	4
BU	208	Cost Accounting	4	0	4
BU	231	Business Data Processing	2	2	3
BU	253	Personnel Administration	3	0	3
LA	810	Psychology	3	0	3
			16	2	17
Term 6					
BU	206	Intermediate Accounting	4	0	4
BU	210	Cost Accounting	4	0	4
BU	223	Internal Auditing	4	0	4
BU	241	Computer Programming—RPG	2	2	3
LA	804	Effective Speaking	3	0	3
			17	2	18

Marketing Management Option

2nd YEAR

			Class	Lab	Credits
Term 4					
BU	253	Personnel Administration	3	0	3
BU	255	Principles of Management	3	0	3
BU	287	Salesmanship	4	0	4
BU	298	Marketing	3	0	3
LA	804	Effective Speaking	3	0	3
BU	160	Typewriting (Elective). It is strongly recommended that all students who have not passed Regents Typewriting or equivalent elect this course.	0–0	5–0	2–0
			16	5–0	18–16
Term 5					
BU	252	*Business Report Writing	3	0	3
BU	288	Advertising	3	0	3
BU	289	Management: A Behavioral Approach	3	0	3
BU	296	Credit	3	0	3
LA	810	Psychology	3	0	3
			15	0	15
Term 6					
BU	221	*Computer Programming—Fortran or an approved Business alternate	2–3	2–0	3
BU	294	Advertising	4	0	4
BU	295	Marketing Research	3	0	3
BU	299	Retailing	3	0	3
LA	830	Sociology	3	0	3
			15–16	2–0	16

*Some of Marketing students scheduled in Term 5 and some in Term 6.

Business Administration Option

2nd YEAR

			Hours Per Week		
Term 4			Class	Lab	Credits
BU	204	***Intermediate Acctg. or BU 298 Marketing	4–3	0	4–3
BU	207	***Cost Accounting or Liberal Arts Elective	4–3	0	4–3
LA	145	Development of Western Civilization	3	0	3
MA	120	Finite Mathematics for Business	3	0	3
PH	113	Physical Science	3	2	4
BU	160	Typewriting (Elective). It is strongly recommended that all students who have not passed Regents Typewriting or equivalent elect this course.	0–0	5–0	2–0
			17–15	7–2	20–16
Term 5					
BU	205	***Intermediate Accounting or BU 289 Management: A Behavioral Approach	4–3	0	4–3
BU	208	***Cost Accounting or Liberal Arts elective	4–3	0	4–3
LA	146	Development of Western Civilization	3	0	3
MA	121	Finite Mathematics for Business	3	0	3
PH	114	Physical Science	3	2	4
			17–15	2	18–16
Term 6					
BU	206	***Intermediate Accounting or BU 221 Computer Programming—Fortran	4–2	0–2	4–3
BU	210	***Cost Accounting or Liberal Arts elective	4–3	0	4–3
LA	147	Development of Western Civilization	3	0	3
MA	122	Introduction to Calculus for Business	3	0	3
PH	115	Physical Science	3	2	4
			17–14	2–4	18–16

***Student's choice must consist of three-term sequences.

SECRETARIAL SCIENCES DEPARTMENT

1st YEAR

for curriculum options in

- **Engineering Secretary**
- **Executive Secretary**

			Hours Per Week		
			Class	**Lab**	**Credits**
Term 1					
BU	101	Accounting	4	0	4
BU	141	Business Mathematics	3	0	3
BU	161	*Typewriting or Alternate	0–3	5–0	2–3
BU	164	**Shorthand or Alternate	2–3	3–0	3
LA	801	English	3	0	3
			12–16	8–0	15–16
Term 2					
BU	102	Accounting	4	0	4
BU	162	Typewriting	0	5	2
BU	165	Shorthand	2	3	3
BU	167	Transcription	2	3	3
LA	802	English	3	0	3
PH	101	Physical Science	2	2	3
			13	13	18
Term 3					
BU	103	Accounting	4	0	4
BU	163	Typewriting	2	3	3
BU	166	Shorthand	2	3	3
LA	803	English	3	0	3
MA	105	Mathematics	3	0	3
PH	102	Physical Science (Engineering Secretary)	2	2	3
		or		or	
BU	151	Business English (Executive Secretary)	3	0	3
			16–17	6–8	19

*If a student has earned a Regents unit in Typewriting of 80% or better, an alternate course chosen by the department will be assigned.

**If a student has earned a Regents unit in Shorthand of 80% or better, an alternate course chosen by the department will be assigned.

Engineering Secretary Option

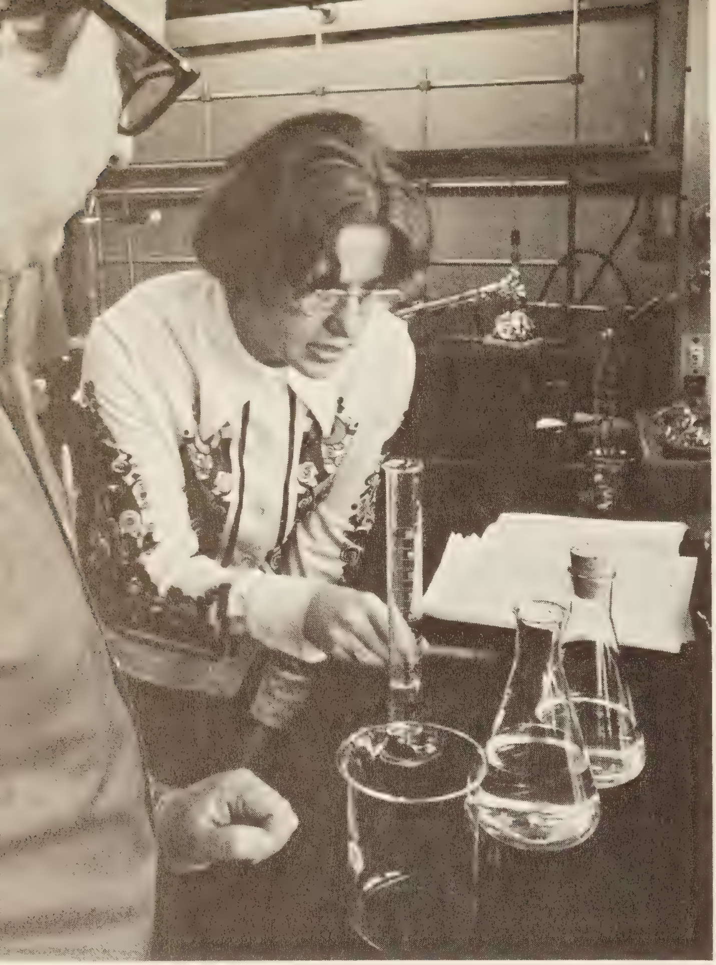
2nd YEAR

			Hours Per Week		
Term 4			**Class**	**Lab**	**Credits**
BU	130	Introduction to Electronic Data Processing	3	0	3
BU	147	Business Law	3	0	3
BU	151	Business English	3	0	3
BU	253	Personnel Administration	3	0	3
BU	260	Engineering Shorthand	2	3	3
CH	104	Chemistry	3	2	4
			17	5	19
Term 5					
BU	261	Engineering Shorthand	2	3	3
BU	263	Technical Typewriting	2	3	3
BU	274	Office Practice	2	4	4
LA	804	Effective Speaking	3	0	3
MT	128	Survey of Engineering Laboratories	2	3	3
			11	13	16
Term 6					
BU	275	Office Practice	2	4	4
BU	280	Speed Shorthand	2	3	3
LA	810	Psychology	3	0	3
LA	820	Economics	3	0	3
		Liberal Arts Elective	3	0	3
			13	7	16

Executive Secretary Option

Term 4					
BU	147	Business Law	3	0	3
BU	253	Personnel Administration	3	0	3
BU	270	Executive Shorthand	2	3	3
LA	255	Economics	3	0	3
LA	810	Psychology	3	0	3
		*Liberal Arts elective	3–4	0–1	3–4
			17–18	3–4	18–19
Term 5					
BU	271	Executive Shorthand	2	3	3
BU	274	Office Practice	2	4	4
LA	256	Economics	3	0	3
LA	804	Effective Speaking	3	0	3
		*Liberal Arts Elective	3–4	0–1	3–4
			13–14	7–8	16–17
Term 6					
BU	130	Introduction to Electronic Data Processing	3	0	3
BU	275	Office Practice	2	4	4
BU	280	Speed Shorthand	2	3	3
LA	257	Economics	3	0	3
		*Liberal Arts Elective	3–4	0–1	3–4
			13–14	7–8	16–17

*Students can elect a foreign language.



CHEMICAL TECHNOLOGY

The Chemical Technology program is designed to prepare both men and women for industrial positions in chemistry, chemical engineering and allied occupations. Industrial positions are in the areas of research, development, analytical chemistry, pilot plant, production supervision, technical writing and sales.

Graduates are employed by both private industry and government agencies throughout the nation, and each year the demand for graduates continues to exceed the supply.

This program's primary emphasis is toward the occupational opportunities in this field. But some students each year have successfully transferred to the third year of a four-year college or university.

This is an ECPD accredited Engineering Technology curriculum. ECPD is the Engineers Council for Professional Development.

Chemical Technology

1st Year

			Hours Per Week		
Term 1			Class	Lab	Credits
CH	110	Chemistry	4	3	5
AD	100	Orientation	1	0	0
LA	801	English	3	0	3
MA	140	*College Algebra and Trigonometry	4	0	4
MT	104	Engineering Drawing	0	3	1
PH	143	Physics	3	2	4
			14	8	17
Term 2					
CH	111	Chemistry	4	3	5
LA	280	Sociology	3	0	3
LA	802	English	3	0	3
MA	141	*Calculus	3	0	3
PH	144	Physics	4	2	5
			17	5	19
Term 3					
CH	112	Chemistry	4	6	6
AD	120	Computer Programming	2	2	3
LA	803	English	3	0	3
MA	142	*Calculus	3	0	3
PH	145	Physics	3	2	4
			15	10	19

2nd YEAR

			Class	Lab	Credits
Term 4					
CH	241	Quantitative Analysis	3	6	5
CH	251	Organic Chemistry	3	6	5
CH	260	Stoichiometry	3	3	4
		or		or	
BI	101	**Biology	3	3	4
MA	241	Calculus	3	0	3
		or		or	
LA	820	Economics	3	0	3
			12	15	17
Term 5					
CH	242	Quantitative Analysis	3	6	5
CH	252	Organic Chemistry	3	6	5
CH	262	Unit Operations	3	3	4
		or		or	
BI	102	**Biology	3	3	4
LA	281	Sociology	3	0	3
			12	15	17
Term 6					
CH	243	Instrumental Methods of Analysis	3	6	5
CH	253	Organic Chemistry	3	6	5
CH	263	Unit Operations	3	6	5
		or		or	
BI	103	**Biology	3	3	4
LA	282	Sociology	3	0	3
			12	18–15	18–17

*Students whose mathematics background is deemed adequate by the Admissions Office may start their mathematics sequence with MA 141. They would then take MA 142 and MA 240 in the second and third terms.

**A limited number of students may take BI 101, 102, 103 Biology in place of CH 260, 262, 263.

CIVIL TECHNOLOGY

The construction industry, considering all related goods and services such as manufacturing and transportation, is the largest industry in the country. The unparalled activity in construction has pointed up a severe shortage of technical personnel in this field.

This shortage has been made more acute by activation of multibillion dollar state and Federal programs in highway and clean water conservation, as well as by the erection of new educational and industrial facilities. Civil Technology has been designed to help alleviate this shortage.

Graduates of this program begin their careers as engineering technicians and are qualified to work as assistants to professional and supervisory persons such as engineers, architects, construction superintendents, surveyors and contractors. Excellent promotion and advancement opportunities exist for graduates of this curriculum.

Many openings exist in the Federal, state and local governments. Other fields which attract graduates are sales of building materials and construction equipment, purchasing, testing of construction materials, drafting, estimating, specification writing, and inspection.

This is an ECPD accredited Engineering Technology curriculum. ECPD is the Engineers Council for Professional Development.

1st YEAR

Term 1

			Hours Per Week		
			Class	**Lab**	**Credits**
AD	100	Orientation	1	0	0
CH	104	†Chemistry	3	2	4
LA	801	English	3	0	3
MA	140	¶College Algebra and Trigonometry	4	0	4
MT	110	††Engineering Drawing	0	3	1
MT	130	†††Manufacturing Processes	2	2	3
PH	143	Physics	3	2	4
			16	9	19

†Students who have passed a high school Chemistry Regents with 80% or better or CS 140 Chemistry with a C or better will not be required to take CH 104 Chemistry. Another course may be subsituted with department approval.

††Students who have passed CS 132 Engineering Drawing with a C or better will not be required to take MT 110 Engineering Drawing.

†††Waiver of this course is subject to department approval.

Term 2

			Class	Lab	Credits
CT	110	Architectural Drawing	0	3	1
CT	119	Plain Concrete	2	3	3
LA	802	English	3	0	3
MA	141	¶Calculus	3	0	3
MT	155	Applied Mechanics	3	0	3
PH	144	Physics	4	2	5
			15	8	18

Term 3

			Class	Lab	Credits
CT	140	Surveying	3	6	5
CT	153	Strength of Materials	3	3	4
CT	211	Architectural Drawing	0	3	1
		¶¶Elective	0–3	0–3	0–4
LA	803	English	3	0	3
MA	142	¶Calculus	3	0	3
			12–15	12–15	16–20

¶Students whose mathematics background is deemed adequate by the Admissions Office may start their mathematics sequence with MA 141. They would then take MA 142 and MA 240 in the second and third terms.

¶¶ET 141 Electricity or PH 145 Physics (Electricity and Magnetism). Approval of Department required for PH 145 Physics.

Civil Technology

2nd YEAR

Term 4

CT	141	Surveying	2	6	4
CT	212	Architectural Drawing	0	3	1
CT	254	Strength of Materials	3	0	3
AD	120	Computer Programming	2	2	3
LA	830	Sociology	3	0	3
		*Elective	0–3	0	0–3
			10–13	11	14–17

Term 5

CT	220	Reinforced Concrete Design	3	3	4
CT	250	Estimating & Construction Planning	3	3	4
CT	283	Route Surveying & Highway Design	3	3	4
LA	820	Economics	3	0	3
		**Elective	0–3	0–3	0–3
			12–15	9–12	15–18

Term 6

CT	221	Structural Steel Design	3	3	4
CT	230	Building Design	3	3	4
CT	270	Soil Mechanics	3	3	4
LA	810	Psychology	3	0	3
		***Elective	0–3	0–3	0–4
			12–15	9–12	15–19

*CT 260 Hydraulics or MA 240 Calculus.
**CT 274 Environmental Sanitation or MA 241 Calculus.
***CT 273 Environmental Sanitation or MA 242 Calculus.

DENTAL HYGIENE

Dental hygienists are in great demand in this highly respected profession. Their services are performed in private dental practices, school systems, hospitals, industry and institutional dental clinics. Also in research programs, schools of dental hygiene, public health agencies, the Peace Corps and on the ship S. S. Hope. Regardless of the type of employment, one of the most important activities is that of constantly being a dental health educator.

Students learn to perform clinical, educational and assisting duties in a department that has the most modern equipment. The dental hygienist, who always works under the supervision of a dentist, is the only member of the auxiliary group in the dental profession who is licensed to perform services directly in the mouth of a patient; therefore, good manual dexterity is necessary. Sincere interest in working with people, good health, pleasing personality and good moral character are also important qualifications.

Dental hygiene duties, in compliance with respective state laws, include (a) the removal of deposits and stains on the teeth, (b) the application of fluoride solutions to the teeth, (c) individual and group dental health instruction, (d) exposing, processing and mounting of dental X-ray films, and (e) assisting the dentist at the dental chair and in the laboratory.

All dental hygienists must pass a licensing examination (written and practical) in the state in which they wish to practice. A written National Board Examination is currently accepted by 48 states, the District of Columbia and the Virgin Islands.

Graduates of Broome Community College's Dental Hygiene curriculum may continue to study for a Bachelor of Science Degree in Health Education, for which a formal arrangement has been made with the State University College at Cortland, New York. Credits are also acceptable for transfer to other degree-granting colleges in the country.

The Dental Hygiene Department is equipped to handle limited numbers of students, so that applications should be submitted to the College at the beginning of the senior year of high school. It is also recommended that applicants take the Dental Hygiene Aptitude Test.

The curriculum is fully accredited by the Council on Dental Education of the American Dental Association.

Dental Hygiene

1st YEAR

		Hours Per Week		
Term 1		**Class**	**Lab**	**Credits**
DH 100	Dental Hygiene and Ethics	2	0	2
DH 121	Hygiene	2	0	2
DH 140	Dental Anatomy	2	2	3
BI 111	First Aid	1	0	1
BI 171	Anatomy and Physiology	3	2	4
CH 101	Chemistry	3	2	4
LA 801	English	3	0	3
		16	6	19
Term 2				
DH 101	Dental Manikin Practice	1	4	3
DH 141	Dental Anatomy	2	2	3
BI 172	Anatomy and Physiology	3	2	4
CH 102	Chemistry	3	2	4
LA 802	English	3	0	3
		12	10	17
Term 3				
DH 103	Clinical Dental Hygiene	1	3	2
DH 158	Dental Office Practice	2	2	3
DH 283	Dental Health Education	3	0	3
BI 159	Microbiology	3	4	5
BI 176	Dental Histology	3	2	4
LA 803	English	3	0	3
		15	11	20

2nd YEAR

Term 4				
DH 204	Clinical Dental Hygiene	1	12	4
DH 244	Preventive Dentistry	3	0	3
DH 251	Dental Radiography	1	2	2
DH 254	General Pathology	2	0	2
DH 260	Dental Laboratory Practice	2	2	3
LA 810	Psychology	3	0	3
BU 160	Typewriting (elective)	0	5	2
		12	16–21	17–19
Term 5				
DH 205	Clinical Dental Hygiene	1	12	4
DH 252	Clinical Dental Radiography	0	2	1
DH 255	Oral Pathology	2	0	2
DH 261	Nutrition	3	0	3
DH 267	Anesthesia	2	0	2
DH 284	Dental Pharmacology	3	0	3
DH 287	Public Health	2	0	2
		13	14	17
Term 6				
DH 206	Clinical Dental Hygiene	1	12	4
DH 253	Clinical Dental Radiography	0	2	1
DH 268	Special Dental Practice	3	0	3
LA 804	Effective Speaking	3	0	3
LA 820	Economics	3	0	3
LA 830	Sociology	3	0	3
		13	14	17

ELECTRICAL TECHNOLOGY

Few people are unaware of what an important part electricity plays in our daily lives, in conveniences like radio, television, lighting and innumerable kitchen appliances.

But electricity is also one of the cornerstones upon which space exploration and our national defense are built. The amazing development of radar, electronics and solid state hardware is based on electricity.

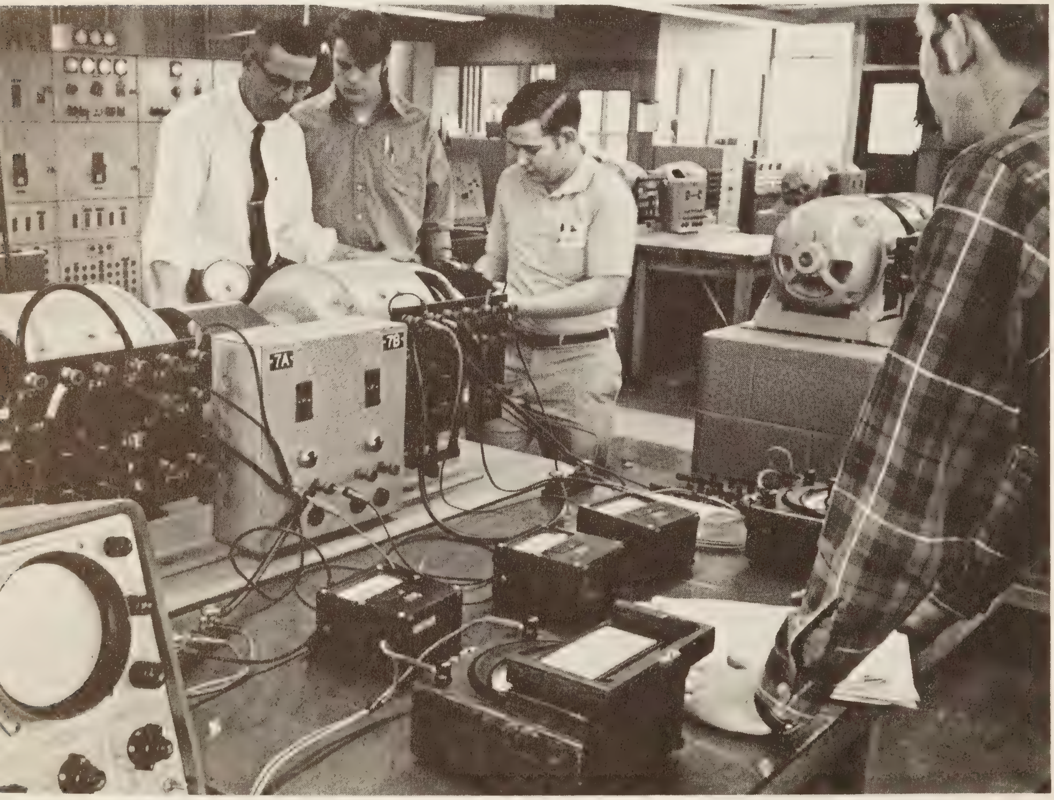
The rapid advances in electronics and related electrical fields have created a need for engineers, engineering technicians and specialists to meet future needs.

Two-year technical college programs, like this one, have become increasingly important in preparing better trained men for work in the electrical field. These colleges train men and women to do highly specialized technical work in half the time of a four-year college. Although few realize it, there is an excellent place for women in the electrical field.

Job opportunities are in such areas as electrical design drafting, technical sales, electronic computers, sonar and guided missiles. Graduates can also find employment in power generation and distribution, communications and the design and evaluation of electrical equipment.

Some of the companies that have hired Broome Community College Electrical Technology graduates in recent years are General Electric, Westinghouse, IBM, Bell Telephone, the Argonne Laboratories of the University of Chicago and New York State Electric and Gas Corp.

This is an ECPD accredited Engineering Technology curriculum. ECPD is the Engineers Council for Professional Development.



Electrical Technology

1st YEAR

			Hours Per Week		
Term 1			**Class**	**Lab**	**Credits**
ET	101	Electrical Shop	1	3	2
ET	120	Electrical Circuits	4	3	5
ET	130	Engineering Drawing	0	3	1
AD	100	Orientation	1	0	0
LA	801	English	3	0	3
MA	140	*College Algebra and Trigonometry	4	0	4
PH	143	Physics (Mechanics)	3	2	4
			16	11	19
Term 2					
ET	102	Electrical Shop	1	3	2
ET	113	Electricity and Magnetism	3	3	4
ET	121	Electrical Circuits	4	3	5
ET	131	Engineering Drawing	0	3	1
LA	802	English	3	0	3
MA	141	*Calculus	3	0	3
			14	12	18
Term 3					
ET	103	Electrical Shop	0	3	1
ET	250	Electronics	4	3	5
AD	120	Fundamentals of Computer Programming	2	2	3
LA	803	English	3	0	3
MA	142	*Calculus	3	0	3
PH	144	Physics (Heat, Light and Sound)	4	2	5
			16	10	20

2nd YEAR

			Class	Lab	Credits
Term 4					
ET	223	Network Analysis	4	0	4
ET	230	Electrical Design	0	3	1
ET	240	Electrical Machines	4	3	5
ET	251	Electronics	4	3	5
ET	260	Principles of Industrial Management	3	0	3
ET	265	Principles of Solid State Devices	2	0	2
			17	9	20
Term 5					
ET	241	Electrical Machines	4	3	5
ET	252	Electronics	4	3	5
ET	258	Introduction to System Logic	2	2	3
LA	810	Psychology	3	0	3
		Required Elective:	3	0	3
ET	264	Microcircuits			
MA	240	Calculus			
MA	241	Calculus			
			16	8	19
Term 6					
ET	231	Electrical Design	0	3	1
ET	242	Automatic Controls	4	3	5
ET	253	Electronics	4	3	5
LA	820	Economics	3	0	3
LA	830	Sociology	3	0	3
			14	9	17

*Students whose mathematics background is deemed adequate by the Admissions Office may start their mathematics sequence with MA 141. They would then take MA 142 and MA 240 in the second and third terms.

ENGINEERING SCIENCE

The level of work covered in the Engineering Science curriculum is primarily designed to prepare graduates to continue their studies in the engineering field in four-year colleges and universities. But there are also employment opportunities for qualified graduates.

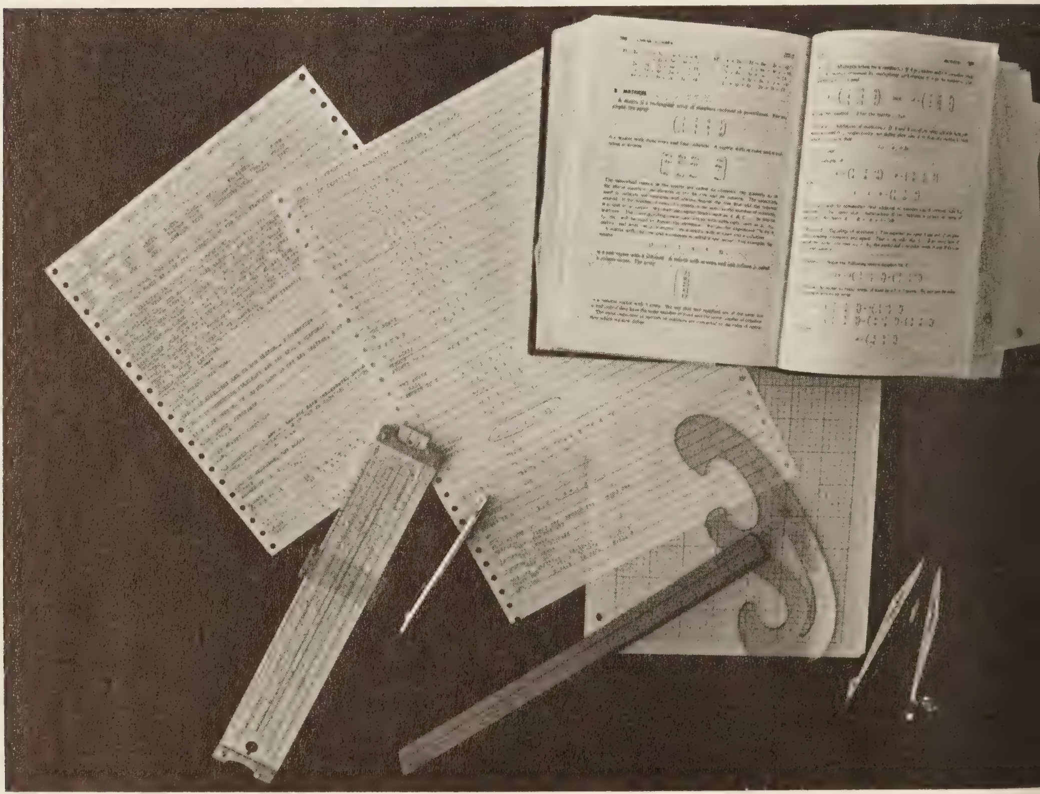
The emphasis in this program is on mathematics and physics, so that graduates can transfer to four-year schools into the junior year in physics, engineering and mathematics.

Students have recently transferred to engineering schools at such colleges and universities as Rensselaer Polytechnic Institute, Syracuse, Clarkson, New York University and State University at Buffalo.

Some of the job opportunities for those who prefer to seek immediate employment lie in the engineering technician field, for example as assistants to engineers in research and development, and positions involving the application of mathematics.

In order for a high school graduate to qualify for admission to the Engineering Science curriculum, he or she must have shown high academic potential on the admission tests, and demonstrated superior ability in science and mathematics in high school.

Students entering Broome Community College who wish to continue studying for their bachelors' degrees in engineering, applied mathematics or physics will find this the most appropriate course of study.



Engineering Science

1st YEAR

			Hours Per Week		
			Class	Lab	Credits
Term 1					
AD	112	Computer Programming for Engineers	2	2	3
CH	135	Chemistry	3	3	4
LA	130	English Composition	3	0	3
MA	170	Calculus with Analytic Geometry	4	0	4
PH	170	Physics (Mechanics)	3	3	4
			15	8	18
Term 2					
CH	136	Chemistry	3	3	4
LA	131	English Composition	3	0	3
MA	171	Calculus with Analytic Geometry	4	0	4
PH	171	Physics (Mechanics and Heat)	3	3	4
MT	103	Engineering Drawing	0	6	2
			13	12	17
Term 3					
CH	137	Chemistry	3	3	4
LA	132	English Composition	3	0	3
MA	172	Calculus with Analytic Geometry	4	0	4
PH	172	Physics (Electricity and Magnetism)	3	3	4
MT	112	Descriptive Geometry	1	2	2
			14	8	17

2nd YEAR

			Class	Lab	Credits
Term 4					
LA	255	Economics	3	0	3
MA	270	Calculus with Analytic Geometry	4	0	4
PH	192	Statics	4	0	4
PH	270	Physics (Light and Sound)	3	3	4
MT	270	Engineering Materials	3	0	3
			17	3	18
Term 5					
LA	256	Economics	3	0	3
MA	271	Differential Equations	3	0	3
PH	210	Electrical Circuits	3	3	4
PH	271	Physics (Atomic)	3	3	4
PH	290	Dynamics	4	0	4
			16	6	18
Term 6					
LA	257	Economics	3	0	3
		or		or	
PH	280	Astronomy	3	3	4
MA	272	Differential Equations	3	0	3
PH	211	Electrical Circuits	3	3	4
PH	272	Physics (Nuclear)	3	3	4
MT	271	Engineering Materials	3	0	3
			15	6–9	17–18

ENVIRONMENTAL HEALTH TECHNOLOGY

Environmental Health Technology is the science of controlling those factors in the physical environment which may exert a harmful effect on man's health. Its scope includes the prevention of communicable diseases and of environmental hazards. It seeks to accomplish these objectives by controlling air and water pollution, liquid and solid waste disposal, housing, milk and food sanitation, industrial hygiene, and ionizing radiation.

The environmental health technician is a member of a professional team devoted to improving our living conditions. As such he will be one who assists the sanitary engineer, the public health scientist, the sanitarian, physicians and veterinarians employed in the health field.

The program is designed to provide the students with a broad background of environmental and sanitary sciences emphasizing the practical application of the subjects. In addition, the program deals with the ethical and legal responsibilities of public health personnel and the current status of area and national pollution control programs.

In addition to his education in the classroom and laboratory on campus, the student's training includes inspection tours of milk and food processing plants, water and waste water treatment facilities, as well as radiation installations and hospitals.

The curriculum was devised so that if a student wishes to further his college work he may do so. At the same time the student begins immediately with specialty courses which will prepare him for employment upon graduation.

Graduates receive the Associate in Applied Science degree and are qualified for immediate employment in both the public and private sectors. The many job opportunities include positions in health departments, the dairy and food industries, engineering firms, housing agencies and public health laboratories.

The curriculum is approved by the Public Health Council of the State Health Department. Therefore, graduates can become environmental health technicians in health departments without the usual year of traineeship prior to taking the civil service examination.

Environmental Health Technology

1st YEAR

			Hours Per Week		
			Class	Lab	Credits
Term 1					
BI	100	Ethics and Orientation	0	2	1
BI	136	Zoological Principles	3	3	4
CH	132	General Chemistry	3	3	4
LA	801	English	3	0	3
MA	101	*Mathematics	3	0	3
MT	110	**Engineering Drawing	0	3	1
			12	11	16
Term 2					
EH	112	Environmental Health	2	0	2
CH	133	General Chemistry	3	3	4
LA	802	English	3	0	3
MA	105	Mathematics	3	0	3
PH	106	Physics	2	2	3
			13	5	15
Term 3					
EH	201	Atmospheric Pollution Control	3	3	4
BI	106	Limnology	2	6	4
CH	134	General Chemistry	3	3	4
LA	803	English	3	0	3
PH	107	Physics	2	2	3
			13	14	18

2nd YEAR

			Class	Lab	Credits
Term 4					
EH	103	Milk Sanitation	3	3	4
EH	204	Water Supply and Pollution Control	3	3	4
BI	250	Microbiology	3	4	5
LA	820	Economics	3	0	3
PH	110	Physics	2	2	3
			14	12	19
Term 5					
EH	202	Community Sanitation	3	3	4
EH	203	Food Sanitation	3	3	4
EH	206	Radiological Health	2	3	3
BI	254	Microbiology	2	6	4
LA	804	Effective Speaking	3	0	3
			13	15	18
Term 6					
EH	205	Water Supply and Pollution Control	3	3	4
EH	208	Environmental Health Administration	2	2	3
BI	207	Parasitology	3	3	4
LA	810	Psychology	3	0	3
LA	830	Sociology	3	0	3
			14	8	17

*MA 101 Mathematics will not be required if the student has had satisfactory prior training. Alternate course will be substituted.

**Students who have passed CS 132 Engineering Drawing with a C or better will not be required to take MT 110 Engineering Drawing.

LIBERAL ARTS AND SCIENCES

The Liberal Arts curriculum is a two-year, university-parallel program designed especially for those who wish to continue their college education at a four-year college or university. It offers an Associate in Arts Degree.

Students finishing this curriculum have completed a breadth of education preparatory to such professional careers as law, medicine and education. A special science-emphasis option offers particularly appropriate preparation for students who plan to move from Broome Community College to pre-medicine, pre-dental or pre-pharmacy programs in four-year colleges.

The required and elective courses give the students essential credits in such areas as mathematics, language, science, social studies and the humanities.

This curriculum, moreover, can perform an exploratory function for many students. It is regarded as an ideal course of study for those who have not yet decided on a specific career. The program enables them to complete certain studies while they are making their career decisions.

Liberal Arts and Sciences

1st YEAR

		Hours Per Week		
		Class	Lab	Credits
Term 1				
LA 130	English Composition	3	0	3
LA 145	Development of Western Civilization	3	0	3
	*Mathematics or Elective	3–4	0	3–4
	**Science	3	3	4
	Language or Philosophy	4–3	1–0	4–3
PE	Physical Education	2	0	1
		17–19	4–3	17–19
Term 2				
LA 131	English Composition	3	0	3
LA 146	Development of Western Civilization	3	0	3
	*Mathematics or Elective	3–4	0	3–4
	**Science	3	3	4
	Language or Philosophy	4–3	1–0	4–3
PE	Physical Education	2	0	1
		17–19	4–3	17–19
Term 3				
LA 132	English Composition	3	0	3
LA 147	Development of Western Civilization	3	0	3
	*Mathematics or Elective	3–4	0	3–4
	**Science	3	3	4
	Language or Philosophy	4–3	1–0	4–3
PE	Physical Education	2	0	1
		17–19	4–3	17–19

*Students who have completed 3½ units of secondary school mathematics (through Advanced Algebra) may take a one-year sequence in Calculus with Analytic Geometry or a non-mathematics elective.

**Biology, Chemistry, Physics or Physical Science. Students may defer this course until the second year and choose an elective in its place.

2nd YEAR

		Class	Lab	Credits
Term 4				
LA 233	English Literature	3	0	3
	Social Science Elective	3	0	3
	†Electives	9	0	9
PE	Physical Education	2	0	1
		17	0	16†
Term 5				
LA 234	English Literature	3	0	3
	Social Science Elective	3	0	3
	†Electives	9	0	9
PE	Physical Education	2	0	1
		17	0	16†
Term 6				
LA 235	English Literature	3	0	3
	Social Science Elective	3	0	3
	†Electives	9	0	9
PE	Physical Education	2	0	1
		17	0	16†

†Students must take enough elective hours to fulfill the degree requirement of a minimum of 99 credit hours.

Liberal Arts
Science-Emphasis Option

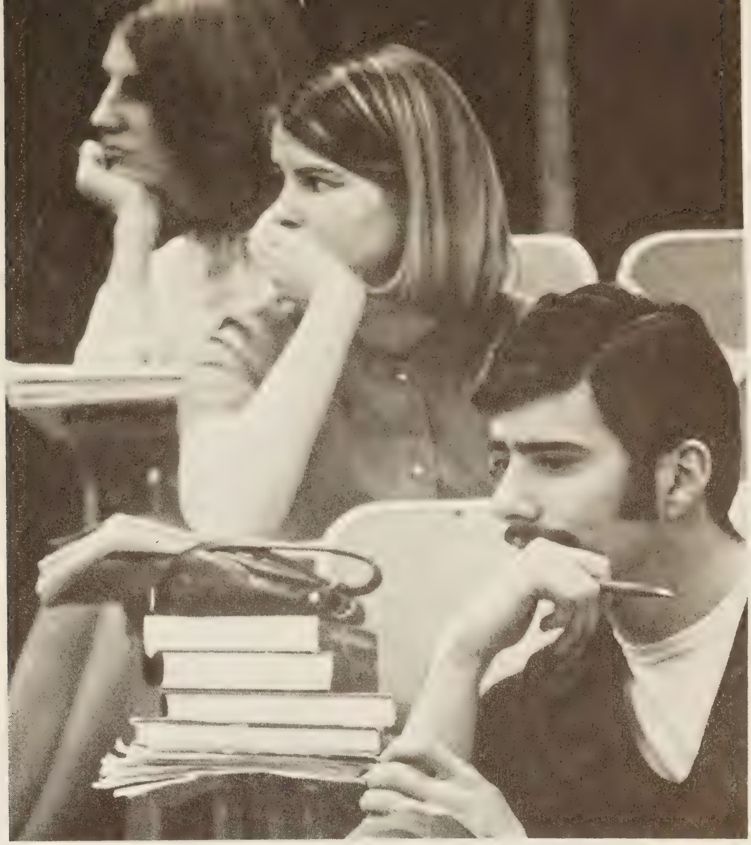
Students who intend to continue their education in such fields as medicine, dentistry, pharmacy, forestry or biology should take this option.

They should be advised that this curriculum presumes a high level of academic preparation in the secondary school. The student should consult with his faculty advisor when he is doubtful about the adequacy of his pre-college academic preparation. Sciences may be chosen from Biology, Chemistry and Physics.

1st YEAR

		Hours Per Week		
		Class	Lab	Credits
Term 1				
LA 130	English Composition	3	0	3
LA 145	Development of Western Civilization	3	0	3
	*Mathematics or Elective	3	0	3
	Science	3	3	4
	Science	3	3	4
PE	Physical Education	2	0	1
		17	6	18
Term 2				
LA 131	English Composition	3	0	3
LA 146	Development of Western Civilization	3	0	3
	*Mathematics or Elective	3	0	3
	Science	3	3	4
	Science	3	3	4
PE	Physical Education	2	0	1
		17	6	18
Term 3				
LA 132	English Composition	3	0	3
LA 147	Development of Western Civilization	3	0	3
	*Mathematics or Elective	3	0	3
	Science	3	3	4
	Science	3	3	4
PE	Physical Education	2	0	1
		17	6	18

*Students who have completed 3½ units of secodary school mathematics may take a one-year sequence in Calculus with Analytic Geometry or a non-mathematics elective.



2nd YEAR

		Hours Per Week Class	Lab	Credits
Term 4				
LA 233	English Literature	3	0	3
	Social Science	3	0	3
	Science	3	3	4
	Science	3	3	4
	Humanities Elective	3	0	3
PE	Physical Education	2	0	1
		17	6	18
Term 5				
LA 234	English Literature	3	0	3
	Social Science	3	0	3
	Science	3	3	4
	Science	3	3	4
	Humanities Elective	3	0	3
PE	Physical Education	2	0	1
		17	6	18
Term 6				
LA 235	English Literature	3	0	3
	Social Science	3	0	3
	Science	3	3	4
	Science	3	3	4
	Humanities Elective	3	0	3
PE	Physical Education	2	0	1
		17	6	18

MECHANICAL TECHNOLOGY

The nature of industry today makes it more important than ever that applicants for employment have a high degree of technical competence. The purpose of the Mechanical Technology curriculum is to prepare qualified young people of our community to fill the growing demand in industry and business for engineering technicians in the mechanical field.

Initial employment opportunities are in the area between the skilled craftsman and the professional engineer, with the emphasis in the direction of the engineer. Recent graduates have been employed in such areas as design drafting, product design, metallurgical laboratories, quality control, time study, purchasing, technical writing and process planning, to name just a few. Some of the companies hiring recent graduates are IBM, General Electric, New York State Electric and Gas Corp., Link Division of Singer-General Precision, Inc. and Eastman Kodak. Many graduates accept positions far beyond the boundaries of New York State, even though the attempt is made to satisfy the needs of industry in Broome County.

This is an ECPD accredited Engineering Technology curriculum. ECPD is the Engineers Council for Professional Development.

Mechanical Technology

1st YEAR

			Hours Per Week		
			Class	Lab	Credits
Term 1					
MT	110	*Engineering Drawing	0	3	1
MT	130	Manufacturing Processes	2	2	3
AD	100	Orientation	1	0	0
LA	801	English	3	0	3
LA	810	Psychology	3	0	3
MA	140	**College Algebra and Trigonometry	4	0	4
PH	143	Physics	3	2	4
			16	7	18
Term 2					
MT	111	Eng. Drawing and Descriptive Geometry	1	3	2
MT	131	Manufacturing Processes	1	3	2
MT	155	Applied Mechanics	3	0	3
LA	802	English	3	0	3
MA	141	**Calculus	3	0	3
PH	144	Physics	4	2	5
			15	8	18
Term 3					
MT	132	Manufacturing Processes	1	3	2
MT	156	Applied Mechanics	3	0	3
CH	104	***Chemistry	3	2	4
LA	803	English	3	0	3
MA	142	**Calculus	3	0	3
PH	145	Physics	3	2	4
			16	7	19

2nd YEAR

			Class	Lab	Credits
Term 4					
MT	240	Precision Measurement	1	3	2
MT	257	Strength of Materials	3	3	4
MT	261	Fluid Mechanics	3	0	3
AD	120	Computer Programming	2	2	3
ET	127	Electricity	3	3	4
LA	830	Sociology	3	0	3
			15	11	19
Term 5					
MT	165	Metallurgy	3	3	4
MT	220	Mechanical Design	2	3	3
MT	260	Thermodynamics	3	3	4
MT	267	Statistical Quality Control	3	2	4
ET	128	Electricity	3	3	4
			14	14	19
Term 6					
MT	135	Materials and Processes	3	3	4
MT	221	Mechanical Design	3	3	4
MT	262	Thermodynamics	3	3	4
ET	129	Electronics	3	3	4
LA	820	Economics	3	0	3
			15	12	19

*Students who have passed CS 132 Engineering Drawing with a C or better will not be required to take MT 110 Engineering Drawing.

**Students whose mathematics background is deemed adequate by the Admissions Office may start their mathematics sequence with MA 141. They would then take MA 142 and MA 240 in the second and third terms.

***Students who have passed a high school chemistry regents with 80% or better or CS 140 with a "C" or better will not be required to take CH 104 Chemistry. Another course may be substituted by the department.

MEDICAL LABORATORY TECHNOLOGY

The demand for medical laboratory technicians is rapidly increasing, with the majority finding employment in hospital clinical laboratories and in analytical, control and research laboratories of chemical and pharmaceutical companies. Others are employed as research assistants at large universities.

To provide the background necessary for work in these areas, the program includes courses in chemistry, physiology, microbiology, pharmacology and physics.

Extensive laboratory work in bioanalytical procedures, chemical instrumentation, microbiological and immunological techniques and radiation physics helps to develop the skill needed for a wide range of job opportunities.

Work in the sciences is balanced by a program in general education including social sciences, English and mathematics.

Training in clinical laboratories provides the opportunity for the practical application of the college study through patient-related experiences.

Medical Laboratory Technology

1st YEAR

			Hours Per Week		
			Class	Lab	Credits
Term 1					
BI	100	Ethics and Orientation	0	2	1
BI	136	Zoological Principles	3	3	4
CH	121	Chemistry	3	3	4
LA	801	English	3	0	3
LA	810	Psychology	3	0	3
MA	101	*Mathematics	3	0	3
			15	8	18
Term 2					
BI	137	Anatomy and Physiology	3	3	4
CH	122	Chemistry	3	3	4
LA	802	English	3	0	3
MA	105	Mathematics	3	0	3
PH	106	Physics	2	2	3
			14	8	17
Term 3					
BI	134	Physiology (Bioanalysis)	0	3	1
BI	138	Anatomy and Physiology	3	3	4
CH	123	Chemistry	3	3	4
LA	803	English	3	0	3
PH	107	Physics	2	2	3
PH	110	Physics (Radiation)	2	2	3
			13	13	18

2nd YEAR

Summer Term

			Class	Lab	Credits
Term 4					
BI	233	Introduction to Clinical Physiology	2	0	2
BI	234	Physiology	2	6	4
BI	250	Microbiology	3	4	5
LA	820	Economics	3	0	3
LA	830	Sociology	3	0	3
			13	10	17

Fall Term

Clinical Laboratory Experience .... Graduation Requirement

			Class	Lab	Credits
Term 5					
BI	235	Physiology	2	4	4
BI	251	Microbiology	3	4	5
CH	224	Organic Chemistry	3	3	4
CH	226	Instrumental Analysis	2	6	4
			10	17	17
Term 6					
BI	240	Physiology	2	6	4
BI	252	Microbiology	2	4	4
CH	225	Organic Chemistry	2	3	3
CH	227	Instrumental Analysis	2	6	4
		Elective	3	0	3
			11	19	18

Summer Term

Clinical Laboratory Experience .... Graduation Requirement

*MA 101 Mathematics will not be required if the student has had satisfactory prior training. Alternate course will be substituted.

MEDICAL OFFICE ASSISTANT

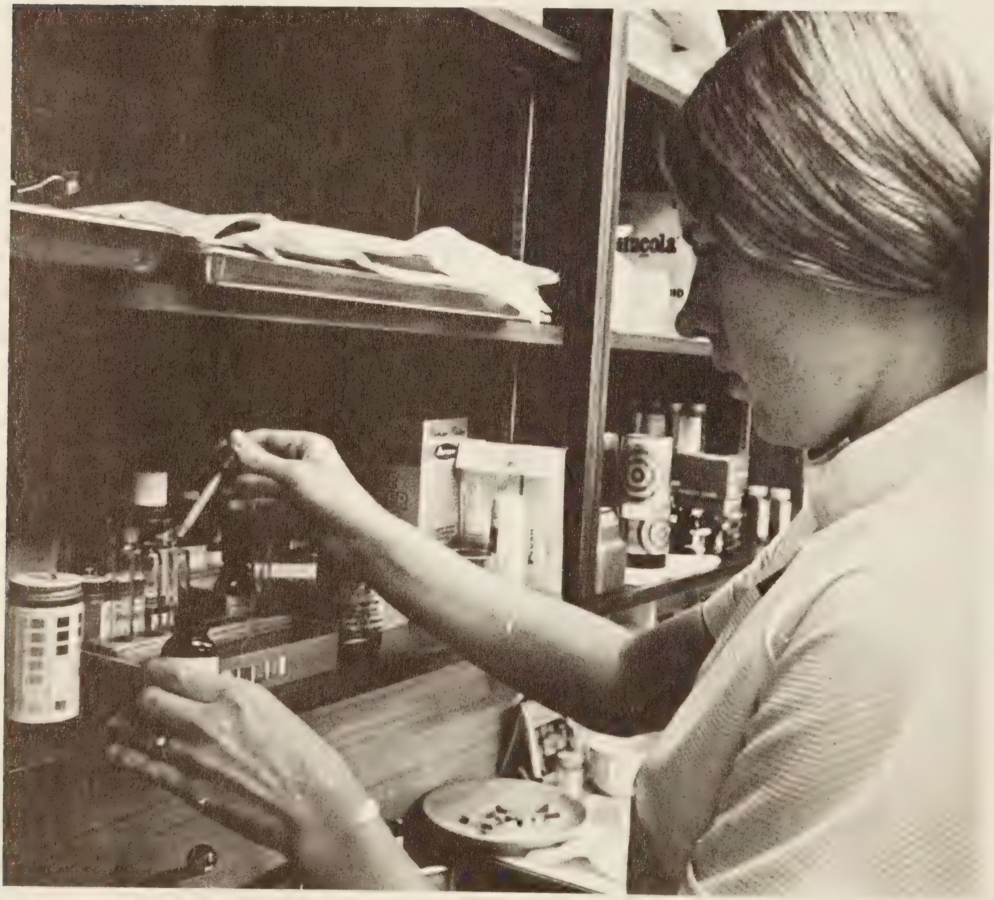
The medical office assistant has many employment opportunities in physician's offices and related fields. Broome Community College prepares young adults for this career by offering a specialized training that combines physician's office management with office laboratory procedures.

In addition to a basic knowledge of such skills as typing, accounting and office procedure, the assistant must know such technical subjects as anatomy, physiology, microbiology, pharmacology and chemistry. Courses in English, social sciences and mathematics provide general background. Laboratory procedures of a physician's office, such as urinalysis, hematology, electrocardiography and audiography, complete the program of studies.

Students gain practical experience in administrative responsibilities, clinical laboratory procedures and assisting the physician in medical offices two days a week during the last two terms of the senior year.

There have been too few graduates in recent years to meet the demand for medical office assistants. As a result employment opportunities have been good in this important phase of medical service.

The program is accredited by the Council on Medical Education of the American Medical Association and by the American Association of Medical Assistants. Graduates may become fully certified by taking the Certified Medical Assistants Examination.



Medical Office Assistant

1st YEAR

			Hours Per Week		
			Class	Lab	Credits
Term 1					
BI	100	Ethics and Orientation	0	2	1
BI	136	Zoological Principles	3	3	4
BU	161	*Typewriting	0	5	2
CH	101	Chemistry	3	2	4
LA	801	English	3	0	3
MA	101	*Mathematics	3	0	3
			12	12	17
Term 2					
MR	102	Medical Terminology	2	2	3
BI	137	Anatomy and Physiology	3	3	4
BU	162	Typewriting	0	5	2
CH	102	Chemistry	3	2	4
LA	802	English	3	0	3
MA	105	Mathematics	3	0	3
			14	12	19
Term 3					
MR	103	Terms and Transcription	2	4	4
BI	138	Anatomy and Physiology	3	3	4
BI	205	Medical Office Procedures	2	4	4
BU	163	Typewriting	2	3	3
LA	803	English	3	0	3
			12	14	18

*MA 101 Mathematics and BU 161 Typewriting will not be required if student has had satisfactory prior training. Alternate courses will be substituted.

2nd YEAR

Term 4					
BI	204	Medical Office Procedures	2	4	4
BU	279	Medical Office Practice	2	3	3
LA	810	Psychology	3	0	3
BI	250	Microbiology	3	4	5
			10	11	15
Term 5					
BI	206	Medical Office Procedures	2	4	4
BI	244	**Directed Practice	0	16	4
BU	283	Medical Office Practice	2	3	3
LA	820	Economics	3	0	3
LA	804	Effective Speaking	3	0	3
			10	23	17
Term 6					
BI	245	**Directed Practice	0	16	4
BI	285	Pharmacology	3	0	3
BU	151	Business English	3	0	3
BU	284	Medical Office Accounting	2	3	3
LA	830	Sociology	3	0	3
			11	19	16

**Directed Practice as in physician's office.

MEDICAL RECORD TECHNOLOGY

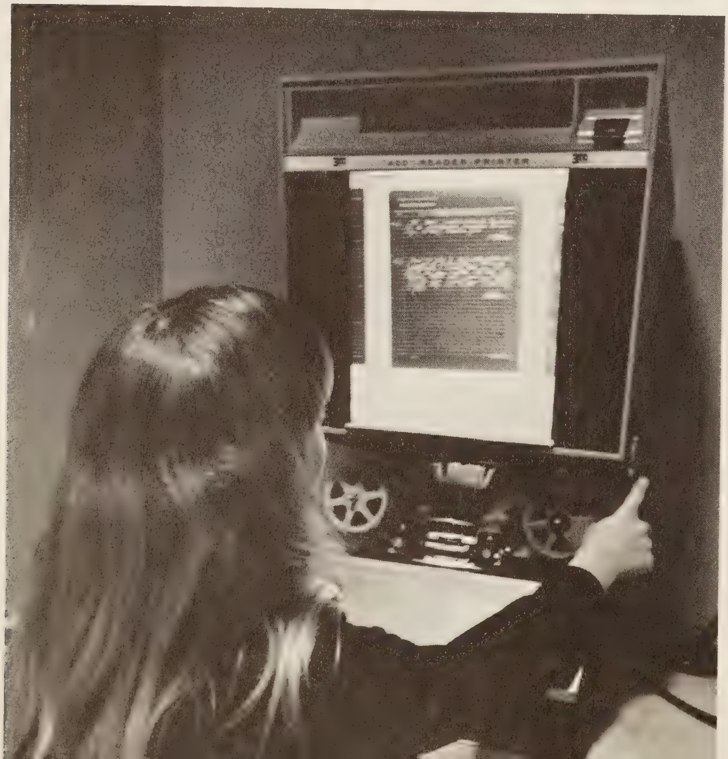
A medical record is the permanent report of a person's illness or injury, kept to preserve information of medical, scientific and legal value. The record includes all medical reports which describe how the patient's illness was diagnosed and treated. Medical records are needed to help doctors diagnose and treat future illness, to verify insurance claims, to plan hospitals, to inform the public health officials, and to aid researchers.

The medical record technician works in the medical record department of a hospital, clinic, nursing home, school of veterinary medicine or other health facility and is responsible for many aspects of preparing, analyzing and preserving health information needed by the patients, by the hospital and by the public. The duties include reviewing medical records for completeness and accuracy and also translating diseases and operations into the proper coding symbols.

They include filing medical records, preparing records for microfilming, typing reports of operations, X-rays and laboratory examinations, history and physical examinations and discharge summaries, compiling statistics of many kinds, assisting the medical staff by preparing special studies and tabulating data from records for research. Supervising the day-to-day operation of a medical record department, taking records to court and maintaining the flow of health information to departments of the hospital are also parts of the total work picture.

The prospects for positions in this field are excellent. The demand for qualified medical record technicians is likely to far exceed the supply for some years to come because of the great rise in numbers and types of hospitals and other health facilities. A skilled medical record technician usually can choose from a variety of well-paid jobs in desirable communities. Salaries are highly competitive and usually better than those of other para-medical positions.

Practice in the college medical record library as well as in the medical record department of cooperating hospitals provides opportunity for educational experience. This experience is the vital core of the program.



Medical Record Technology

1st YEAR

		Hours Per Week		
		Class	Lab	Credits
Term 1				
BI 100	Ethics and Orientation	0	2	1
BI 136	Zoological Principles	3	3	4
BU 161	*Typewriting	0	5	2
CH 101	Chemistry	3	2	4
LA 801	English	3	0	3
MA 101	*Mathematics	3	0	3
		12	12	17
Term 2				
MR 102	Medical Terminology	2	2	3
BI 137	Anatomy and Physiology	3	3	4
BU 162	Typewriting	0	5	2
CH 102	Chemistry	3	2	4
LA 802	English	3	0	3
MA 105	Mathematics	3	0	3
		14	12	19
Term 3				
MR 103	Terms and Transcription	2	4	4
MR 105	Medical Record Science	3	3	4
BI 138	Anatomy and Physiology	3	3	4
BU 163	Typewriting	2	3	3
LA 803	English	3	0	3
		13	13	18

*MA 101 Mathematics and BU 161 Typewriting will not be required if the student has had satisfactory prior training and/or experience. Alternate courses will be substituted.

2nd YEAR

		Class	Lab	Credits
Term 4				
MR 224	Medical Record Science	3	3	4
MR 244	**Medical Record Hospital	0	16	4
BU 279	Medical Office Practice	2	3	3
LA 804	Effective Speaking	3	0	3
LA 810	Psychology	3	0	3
		11	22	17
Term 5				
MR 225	Medical Record Science	3	3	4
MR 245	**Medical Record Hospital	0	16	4
AD 121	Medical Record Processing	3	2	4
BU 283	Medical Office Practice	2	3	3
LA 820	Economics	3	0	3
		11	24	18
Term 6				
MR 237	Trends in Medical Record Science	2	0	2
MR 246	**Medical Record Hospital	0	16	4
BI 285	Pharmacology	3	0	3
BU 151	Business English	3	0	3
LA 830	Sociology	3	0	3
		11	16	15

**480 hours of directed practice are required for graduation.

NURSING

Because of the shortage of qualified nurses in Broome County hospitals, Broome Community College is offering a two-year, college-based curriculum to prepare graduates for immediate entrance into the first level of registered nursing. The shortage also means that employment opportunities are plentiful for those satisfactorily completing this program.

Graduates of this curriculum will be eligible to take the New York State licensing examination for registered nurses. They can find immediate employment in bedside nursing care, or they may wish to continue their education for the baccalaureate and higher degrees in the nursing field.

The curriculum, which students should complete in two years, will operate as a college program, with classes and laboratories held on the campus. Clinical instruction is to be in the cooperating hospitals of the Triple Cities. The clinical experiences include caring for individuals in all age groups, as well as observation periods in community health and welfare agencies.

Mature men and women are encouraged to enter this program along with recent high school graduates, whether they are married or single.

Nursing

1st YEAR

			Hours Per Week		
			Class	Lab	Credits
Term 1					
RN	121	Nursing: Meeting Basic Human Needs	4	6	6
BI	136	Zoological Principles	3	3	4
CH	101	Chemistry	3	2	4
LA	801	English	3	0	3
LA	286	Psychology	3	0	3
			16	11	20
Term 2					
RN	123	Nursing: Beginning of Life Cycle	4	6	6
BI	137	Anatomy and Physiology	3	3	4
LA	802	English	3	0	3
LA	287	Psychology	3	0	3
CH	102	Chemistry	3	2	4
			16	11	20
Term 3					
RN	124	Nursing: Continuation of Life Cycle	4	6	6
BI	138	Anatomy and Physiology	3	3	4
LA	803	English	3	0	3
LA	288	Psychology	3	0	3
		Elective	3	0	3
			16	9	19

2nd YEAR

			Class	Lab	Credits
Term 4					
RN	224	Nursing: Assessment of Problems Resulting from Stress	6	12	10
BI	250	Microbiology	3	4	5
LA	280	Sociology	3	0	3
			12	16	18
Term 5					
RN	225	Nursing: Assessment of Problems Resulting from Stress	6	12	10
RN	235	Trends in Nursing	0	2	1
LA	281	Sociology	3	0	3
		Elective	3	0	3
			12	14	17
Term 6					
RN	226	Nursing: Assessment of Problems Resulting from Stress	6	12	10
RN	236	Trends in Nursing	0	2	1
LA	282	Sociology	3	0	3
		Elective	3	0	3
			12	14	17

X-RAY TECHNOLOGY

X-ray technicians are in great demand, with the majority finding employment in hospitals, with doctors who maintain private practices, for government agencies, both civil and military, and in industry. Their work consists primarily of operating X-ray machines to determine the presence of injury or disease in patients. They also assist physicians in using radiation for treatment of diseases.

The course in X-ray Technology at Broome Community College consists of two academic years and two summers at the cooperating hospitals—Binghamton General, Ideal, Our Lady of Lourdes Memorial and Charles Wilson Memorial—all of which are near the College.

Upon satisfactory completion of the program, the student receives the Associate in Applied Science degree from the College. He or she is then eligible to take the New York State Health Department examination, which must be passed in order to be a licensed practicing X-ray technician. The same examination is required for Civil Service appointments.

The student is also qualified to take the diploma examination of the American Registry of Radiologic Technologists so that he/she may become a Registered Technician (R.T.).

An X-ray technician needs to understand why things are done, as well as to know how to do them. Thus at Broome, courses are designed to give the student the proper background, so that he can understand the principles involved in his work.

Training in the radiology department of the cooperating hospitals provides the opportunity for the practical application of the college study. This training is the vital core of the program since it enables students to observe and assist in the handling of sick and injured patients as they undergo a wide variety of radiological examinations.

The young man or woman who desires to qualify for this career must be physically capable and mentally alert. He must be fitted by training and personality to work with the sick and injured as well as with the medical profession.

The curriculum is accredited by the American Medical Association's Council of Medical Education.

X-Ray Technology

1st YEAR

			Hours Per Week	
Term 1		Class	Lab	Credits
XR 141	Hospital Radiographic Technique	0	16	4
XR 151	Patient Care and Medical Terminology	0	2	1
XR 171	Radiography	3	2	4
BI 171	Anatomy and Physiology	3	3	4
LA 801	English	3	0	3
	Elective (Mathematics or Liberal Arts)	3	0	3
		12	23	19
Term 2				
XR 142	Hospital Radiographic Technique	0	16	4
XR 152	Medical Ethics and Radiation Protection	1	0	1
XR 172	Radiography	3	3	4
BI 172	Anatomy and Physiology	3	3	4
LA 802	English	3	0	3
PH 106	Physics	2	2	3
		12	24	19
Term 3				
XR 143	Hospital Radiographic Technique	0	16	4
XR 173	Radiography	3	2	4
LA 803	English	3	0	3
PH 107	Physics	2	2	3
PH 110	Physics (Radiation)	2	2	3
		10	22	17

Summer Term

XR 144 Hospital Radiographic Technique ....Graduation Requirement

2nd YEAR

		Class	Lab	Credits
Term 4				
XR 244	Hospital Radiographic Technique	0	24	6
XR 251	Pediatric and Skull Radiography	2	2	3
XR 254	Radiation Therapy	2	0	2
XR 274	Radiography	2	2	3
	Elective (Liberal Arts)	3	0	3
		9	28	17
Term 5				
XR 245	Hospital Radiographic Technique	0	24	6
XR 252	Departmental Administration and Quality Control	2	0	2
XR 275	Radiography	2	2	3
	Elective (Liberal Arts)	3	0	3
		7	26	14
Term 6				
XR 246	Hospital Radiographic Technique	0	24	6
XR 253	Trends in Radiologic Technology	2	0	2
XR 276	Radiography	3	2	4
	Elective (Liberal Arts)	3	0	3
		8	26	15

Summer Term

XR 247 Hospital Radiographic Technique ....Graduation Requirement

COLLEGIATE STUDIES CERTIFICATE PROGRAM

The Collegiate Studies Certificate Program at Broome Community College is a special program designed to suit the individual needs of students to prepare them for acceptance into the degree-granting programs of the college.

It consists of a full-year of study on the campus, with the student taking developmental, preparatory, or exploratory associate degree courses. The selection of these would depend on the student's academic preparedness.

This program has evolved from the experience gained with the original concept of a Pre-Technical offering, which prepared students for the engineering and technological curriculums. It was expanded a few years ago to include a broader set of courses to prepare students for all the college's offerings. That was called the General Studies Certificate Program.

The Collegiate Studies Program now enables the college to offer some students courses of different levels, when suitable to their academic backgrounds and goals.

The basic core of courses offered in the Collegiate Studies Program still includes English, mathematics and science to give the student a broad base of academic preparation. This will help him, whether he decides to enter the college's programs in liberal arts, health sciences, engineering or engineering technology, or business.

COURSE DESCRIPTIONS

Numbering System

The school's course numbers are preceded by two letters which in most instances stand for the department of the College responsible for teaching them. Courses numbered from 100 to 199 are generally first-year level and those from 200 to 299 second-year.

AD	Special Programs (Non-Departmental)
BI	Biological Sciences
BU	Business
CH	Chemical Technology
CS	Collegiate Studies Certificate Program
CT	Civil Technology
DH	Dental Hygiene
EH	Environmental Health Technology
ET	Electrical Technology
LA	Liberal Arts
MA	Mathematics
MR	Medical Record Technology
MT	Mechanical Technology
PE	Physical Education
PH	Physics
RN	Nursing
XR	X-Ray Technology

AD 100 Orientation 0 Credit

Freshmen will be given the opportunity to participate in a regularly scheduled program to broaden their understanding of themselves as students in a specific curriculum and in an academic community. The major emphasis is to enable students to better understand, through discussion, their college, college policies, curriculum objectives, transfer and placement opportunities, as well as available college services. For Engineering Technology, Business and X-Ray Technology freshmen.

1 Class Hour

COMPUTING CENTER

Two digital computers comprise the hardware for the College's Computing Center — an IBM 1130 and an IBM System 360/Model 20. Because many colleges have built their engineering and business programs around the computer and many industries depend on its rapid calculations, both transfer-minded students and those preparing for immediate employment after graduation are introduced to the world of the computer. Most students in the technical programs and business curriculums receive instruction in using the 1130, which is also used for record-keeping by the College's administration.

The IBM System/Model 20 supports the data processing instruction in the business curriculums. The Computing Center also has keyboard terminals to a remote computing system which allows the College to participate on a time-sharing basis with other units of the State University of New York.

AD 112 Computer Programming for Engineers 3 Credits

Programming and the use of the IBM 1130 Digital Computer. Fortran IV with block diagramming, numbering and coding systems. Use of graphic plotter and empirical equations. For Engineering Science students.

2 Class Hours, 2 Laboratory Hours

AD 120 Fundamentals of Computer Programming 3 Credits

Historical development of computers, introduction to data processing systems, binary, octal and hexadecimal mathematics and the IBM 1130 digital processing system. Machine language instructions and Fortran IV will be studied along with block diagramming and debugging techniques. Discussion of monitor and executive systems including the concept of time sharing. Programming drills and exercises will reinforce the basic principles by providing "hands-on" training. For engineering technology students.

2 Class Hours, 2 Laboratory Hours
Prerequisite: MA 141 Calculus with Analytic Geometry

AD 121 Medical Record Processing 4 Credits

The use of punched card equipment, design of forms and use of electronic computers with applications in the field of medical statistics and records. Basic principles of flow charting and introduction to programming, with emphasis on electronic computers and auxiliary equipment. For Medical Record Technology students.

3 Class Hours, 2 Laboratory Hours
Prerequisite: MA 105 Mathematics

BIOLOGICAL SCIENCES

BI 100 Ethics and Orientation 1 Credit

History and scope of health specialties. Field trips. Professional ethics. Responsibility of health personnel to self, employer, physician and patient. Professional affiliation. For students in Environmental Health, Medical Laboratory and Medical Record Technology and Medical Office Assistant. **2 Laboratory Hours**

BI 101 Biology 4 Credits

A principles approach to the science of biology. As the basis of life the principle of cellular metabolism is related to cellular structure and function. The principle of organism perpetuation is developed by studies of genetics, embryology and reproduction. For Liberal Arts Students. **3 Class Hours, 3 Laboratory Hours**

BI 102 Biology 4 Credits

A principles approach to the science of biology continued. The principles of organism maintenance and integration are developed by an emphasis on human organ systems. The principle of evolution is introduced and exemplified by a survey of the plant and animal kingdoms. For Liberal Arts Students.

3 Class Hours, 3 Laboratory Hours
Prerequisite: BI 101 Biology

BI 103 Biology 4 Credits

A principles approach to the science of biology continued. The principle of diversity is further developed by studying the more highly evolved animal groups. Principle of ecological interrelatedness of organisms. Ecological and evolutionary principles are integrated by considering past and present distribution of organisms on the earth's surface. For Liberal Arts students.

3 Class Hours, 3 Laboratory Hours
Prerequisite: BI 102 Biology

BI 106 Limnology 4 Credits

Chemistry, physics, geology and biology of fresh water lakes, rivers and streams. Water sampling techniques, fresh water organisms, health and recreational aspects of fresh water pollution. For Environmental Health Technology students.

2 Class Hours, 6 Laboratory Hours
Prerequisite: Consent of Instructor

BI 111 Standard First Aid Course 1 Credit

Fundamentals of first aid as outlined by the standard Red Cross course. For Dental Hygiene students. **1 Class Hour**

BI 134 Physiology (Bioanalysis) 1 Credit

Laboratory introduction to microscopic and chemical analysis of blood and urine. For Medical Laboratory Technology students. **3 Laboratory Hours**
Must be taken concurrently with BI 138 Anatomy and Physiology

BI 136 Zoological Principles 4 Credits

Using examples from the animal kingdom, this course relates fundamental anatomical and physiological factors, thus showing the communality of the biotic world. Cellular respiration, energy transfer, materials transport, evolutionary development, genetic continuity. For students in Environmental Health, Medical Laboratory and Medical Record Technology, Medical Office Assistant and degree Nursing programs. **3 Class Hours, 3 Laboratory Hours**

BI 137 Anatomy and Physiology 4 Credits

Structure and function of the human body, including both microscopic and gross techniques. Through a systematic approach such topics as the skeleton, muscles, nervous control and circulation are included. Laboratory work complements and amplifies the class topics through microscopic study, foetal pig dissection and basic physiological techniques. For students in Medical Laboratory and Medical Record Technology and Medical Office Assistant and degree Nursing programs.

3 Class Hours, 3 Laboratory Hours
Prerequisite: BI 136 Zoological Principles or BI 103 Biology

BI 138 Anatomy and Physiology 4 Credits

Continued study of the human body, including respiration, excretion, digestion, endocrine function and reproduction. Laboratory work includes continued dissection of the foetal pig and physiological techniques. For students in Medical Laboratory and Medical Record Technology and Medical Office Assistant and degree Nursing programs.

3 Class Hours, 3 Laboratory Hours
Prerequisite: BI 137 Anatomy and Physiology

BI 159 Microbiology 5 Credits

General and medical microbiology. The basic phases of immunology. Asepsis, disinfection, sterilization, cultivation, identification. Test used for diagnosis and immunization. For Dental Hygiene, General Hospital nursing students.

3 Class Hours, 4 Laboratory Hours
Prerequisite: CH 102 Chemistry

BI 171 Anatomy and Physiology 4 Credits

Gross and microscopic anatomy of the human body and the function of its parts. Emphasis is on form and structure. Laboratory work includes microscopic anatomy, dissection of the foetal pig and cat, a study of the systems and their interrelationships. For X-Ray Technology, General Hospital nursing students and Dental Hygiene students, who take a two-hour laboratory.

3 Class Hours, 3 Laboratory Hours

BI 172 Anatomy and Physiology 4 Credits

Continued study of gross and microscopic anatomy, the relationship of function to structure, with emphasis on basic physiology. Chemical tests and additional dissection. For X-Ray Technology, General Hospital nursing students and Dental Hygiene students, who take a two-hour laboratory.

3 Class Hours, 3 Laboratory Hours
Prerequisite: BI 171 Anatomy and Physiology

BI 176 Dental Histology 4 Credits

Lecture and laboratory study of the fundamental body tissues and different phases of embryonic development. Emphasis on the origin and structure of the tissues of the oral cavity. For Dental Hygiene students.

3 Class Hours, 2 Laboratory Hours
Prerequisite: BI 172 Anatomy and Physiology

BI 204 Medical Office Procedures 4 Credits

Laboratory introduction to microscopic and chemical analysis of blood and urine as performed in the physician's office. For Medical Office Assistant students.

2 Class Hours, 4 Laboratory Hours

BI 205 Medical Office Procedures 4 Credits

Medical assisting procedures used in the physician's office, including office management, caring for medical and surgical instruments, first aid and aide-training for civil emergencies. Professional ethics, jurisprudence and nomenclature. For Medical Office Assistant students.

2 Class Hours, 4 Laboratory Hours
Prerequisite: MR 102 Medical Terminology or the consent of instructor

BI 206 Medical Office Procedures 4 Credits

Advanced technical procedures in medical assisting, including such specialties as electrocardiography, audiometry, physical therapy. Includes field trips and practice experiences. For Medical Office Assistant students.

2 Class Hours, 4 Laboratory Hours
Prerequisite: BI 205 Medical Office Procedures

BI 207 Parasitology 4 Credits

Parasites and insects of importance in environmental health. Identification and control procedures. For Environmental Health Technology students.

3 Class Hours, 3 Laboratory Hours
Prerequisite: BI 103 Biology or BI 136 Zoological Principles

BI 233 Introduction to Clinical Physiology 2 Credits

Emphasis on cellular functions such as respiration, digestion, metabolism, synthesis and excretion. For Medical Laboratory Technology students. **2 Class Hours**
Prerequisite: BI 134 Physiology and one term of inorganic chemistry

BI 234 Physiology 4 Credits

Continued study of physiological processes. Emphasis on blood and circulatory system. For Medical Laboratory Technology students.

2 Class Hours, 6 Laboratory Hours
Prerequisite: BI 134 Physiology

BI 235 Physiology 4 Credits

Emphasis on the body functions of respiration, digestion, metabolism and excretion. Laboratory work includes related chemical tests and physio-chemical measurements of the body functions. For Medical Laboratory Technology students.

2 Class Hours, 4 Laboratory Hours
Prerequisite: BI 234 Physiology

BI 240 Physiology 4 Credits

Functions of the body including enzyme systems, the endocrines, electrolyte balance and acid-base regulation. The physiological processes and related assays. For Medical Laboratory Technology students.

2 Class Hours, 6 Laboratory Hours
Prerequisites: BI 235 Physiology and CH 224 Chemistry

BI 244, 245 Directed Practice 4, 4 Credits

Directed practical experience in the physician's office, medical centers or extended health care facilities. For Medical Office Assistant students.

16 Laboratory Hours each
Prerequisites: BI 204 Medical Office Procedures and
BI 205 Medical Office Procedures

BI 250 Microbiology 5 Credits

The biology of the common bacteria and related microorganisms. Non-pathogens and pathogens. Basic phases of immunology. Asepsis, disinfection, sterilization, cultivation, identification. For students in Environmental Health and Medical Laboratory Technology, Medical Office Assistant and degree Nursing programs.

3 Class Hours, 4 Laboratory Hours
Prerequisite: 1 year of biological science or of chemistry

BI 251 Microbiology 5 Credits

A continuation of BI 250 Microbiology. Emphasis on infectious diseases, communicability, diagnoses and identification of causative organisms, including microbiology and parasitology. For Medical Laboratory Technology students.

3 Class Hours, 4 Laboratory Hours
Prerequisite: BI 250 Microbiology

BI 252 Microbiology 4 Credits

Continued study of the principles of immunity and the practice of serological techniques. Agglutination and precipitation tests in general, inflammation and leucocyte response, blood grouping and typing. For Medical Laboratory Technology students.

2 Class Hours, 4 Laboratory Hours
Prerequisite: BI 251 Microbiology

BI 254 Microbiology 4 Credits

Microbiological analysis of milk, food, water, sewage, air. For Environmental Health Technology students.

2 Class Hours, 6 Laboratory Hours
Prerequisite: BI 250 Microbiology

BI 285 Pharmacology 3 Credits

The action of drugs, their sources, properties, preparation, administration. The mathematics of pharmacy and prescription writing. For Medical Office Assistant and Medical Record Technology students.

3 Class Hours
Prerequisite: BI 138 Anatomy and Physiology or
BI 172 Anatomy and Physiology

BUSINESS

BU 101 Accounting 4 Credits

Basic concepts and procedures used in the accounting cycle. Emphasis is on the journals, ledgers and financial statements. **4 Class Hours**

BU 102 Accounting 4 Credits

Accounting for cash, receivables, payables, inventory and long term assets. The use of the voucher system. Payroll accounting procedures. **4 Class Hours**

Prerequisite: BU 101 Accounting

BU 103 Accounting 4 Credits

Accounting procedures for partnerships, corporations and manufacturing concerns. Bonds and the interpretation and analysis of financial statements. Use of a corporate practice set. **4 Class Hours**

Prerequisite: BU 102 Accounting

BU 130 Introduction to Electronic Data Processing 3 Credits

Historical development of electronic data processing systems and how they perform business functions. The data processing cycle, the punched card and operation of unit record equipment. Basic computer concepts including their nature, capabilities, limitations. Introduction to the functional units of a computer and the stored program. **3 Class Hours**

Prerequisite: BU 101 Accounting

BU 141 Business Mathematics 3 Credits

Review of arithmetic operations. Preparation and use of shortcut operations. Instruction, review and drill in percentage. Cash and trade discounts, markup, payroll, sales, property and other taxes. Simple and compound interest, bank discounts, interest, investments, annuities. **3 Class Hours**

BU 142 Business Statistics 3 Credits

Concepts and mechanics of basic statistical methods applicable to problems of business and economics. **3 Class Hours**

Prerequisite: BU 141 Business Mathematics

BU 145 Business Law 3 Credits

Brief study of the federal and state judicial systems. Basic principles of contracts, involving the requisites for valid contracts, parties to the contracts, offer and acceptance, performance and discharge. Applications of contracts to agency. Legal aspects of partnerships and corporations. **3 Class Hours**

BU 146 Business Law 3 Credits

Contracts as applied to sales, bailments, carriers, warehousemen. Negotiable instruments, the rights and obligations associated with them. **3 Class Hours**

Prerequisite: BU 145 Business Law

BU 147 Business Law 3 Credits

Background and sources of law including the Federal and state judicial systems. Introduction to legal principles and their relationship to business practices through a survey of contracts, commercial instruments, insurance, personal and real property. **3 Class Hours**

BU 151 Business English 3 Credits

Development of desirable letter writing style. Review of basic letter mechanics. Inquiry and reply, claim and adjustment, credit and collection, sales and promotion, application letters. Composition of business correspondence. **3 Class Hours**

BU 160 Typewriting 2 Credits

Development of basic techniques of typewriter operation such as keyboard mastery, accurate and rhythmical stroking, and correct procedures in care and use of the machine. Projects include business letters, forms, manuscripts. Elective course especially for Dental Hygiene and Administrative Management students, but open to any student who can fit it into his program. **5 Laboratory Hours**

BU 161 Typewriting 2 Credits

A beginning sequence in touch typewriting to make the operator accurate, rhythmical and moderately rapid in the operation of the typewriter. Development of correct procedures in care and use of machine. Projects include simple business letters, tabulations, manuscripts, building of typewriting speed. For Medical Office Assistant and Medical Record Technology students, as well as those in Secretarial curriculums. **5 Laboratory Hours**

BU 162 Typewriting 2 Credits

Development of proficiency of techniques in typing business letters, tabulations and miscellaneous business forms. For Medical Office Assistant and Medical Record Technology students, as well as those in Secretarial curriculums.

5 Laboratory Hours
Prerequisite: BU 161 Typewriting or equivalent

BU 163 Typewriting 3 Credits

Continuation of basic skill building with emphasis on speed and accuracy in typing advanced materials, such as rough drafts, complicated tabulations, manuscripts, legal papers and specifications. For Medical Office Assistant and Medical Record Technology students, as well as those in Secretarial curriculums.

2 Class Hours, 3 Laboratory Hours
Prerequisite: BU 162 Typewriting

BU 164 Shorthand 3 Credits

A beginning course in Gregg Shorthand, Diamond Jubilee System. Basic principles to promote the ability to read fluently from plates and notes. Longhand transcription from shorthand notes dictated from familiar material at a minimum rate of 50 words per minute. **2 Class Hours, 3 Laboratory Hours**

BU 165 Shorthand 3 Credits

Emphasis on shorthand writing ability at sustained speeds. Transcription at the typewriter from shorthand notes dictated from non-previewed materials at a rate of 60 to 120 words per minute. **2 Class Hours, 3 Laboratory Hours**
Prerequisites: BU 161 Typewriting or equivalent and BU 164 Shorthand or equivalent

BU 166 Shorthand 3 Credits

Emphasis on speed in shorthand writing. Transcription at the typewriter from shorthand notes dictated from non-previewed materials at a rate of 70 to 140 words per minute. **2 Class Hours, 3 Laboratory Hours**
Prerequisites: BU 162 Typewriting and BU 165 Shorthand and BU 167 Transcription

BU 167 Transcription 3 Credits

Development of skill in producing mailable transcripts at the typewriter from the student's shorthand notes. Emphasis on the correct use of grammar, spelling, punctuation, capitalization, vocabulary, numbers.

2 Class Hours, 3 Laboratory Hours
Prerequisites: BU 161 Typewriting or equivalent and BU 164 Shorthand or equivalent

BU 204 Intermediate Accounting 4 Credits

Assets, liability, capital and operating accounts comprising financial statements. Generally accepted accounting principles followed in the preparation of these statements. Analysis of working capital and preparation of fund and cash flow statements.

4 Class Hours

Prerequisite: BU 103 Accounting

BU 205 Intermediate Accounting 4 Credits

Advanced study of partnership accounting including liquidations. Corporation accounting including preparation of consolidated statements, treasury stock, bonds and retained earnings.

4 Class Hours

Prerequisite: BU 204 Intermediate Accounting

BU 206 Intermediate Accounting 4 Credits

Installment sales, home office and branch accounting, financial statement analysis. Special ratios, measurements and analysis of operations.

4 Class Hours

Prerequisite: BU 205 Intermediate Accounting

BU 207 Cost Accounting 4 Credits

The nature and purpose of cost accounting. Accounting for direct labor, materials and factory overhead with emphasis on job order costing. Standard cost principles and procedures.

4 Class Hours

Prerequisite: BU 103 Accounting

BU 208 Cost Accounting 4 Credits

Process cost system, inventories, spoilage, factory ledger, special journals.

4 Class Hours

Prerequisite: BU 207 Cost Accounting

BU 210 Cost Accounting 4 Credits

Direct costing, payroll, capital budgeting and non-manufacturing costs.

4 Class Hours

Prerequisite: BU 208 Cost Accounting

BU 221 Computer Programming—Fortran 3 Credits

Historical development of computers together with an introduction to data processing systems. The Fortran language and an introduction to machine language. An introduction to binary and other base numbering systems, flow diagramming, scaling, techniques of program checking and error analysis.

Applied theory in the laboratory by programming solutions to business problems using the Fortran language.

2 Class Hours, 2 Laboratory Hours

Prerequisite: BU 103 Accounting

BU 223 Internal Auditing 4 Credits

Internal auditing is an independent appraisal activity within an organization for the review of accounting, financial and other operations as a basis for service to management. It is a managerial control, which functions by measuring and evaluating the effectiveness of other controls.

4 Class Hours

Prerequisite: BU 103 Accounting

BU 230 Business Data Processing 3 Credits

IBM card design, familiarity with the key punch, sorter, reproducer and collator. Comprehensive study of programming unit records equipment. Use of various wiring diagrams and wiring panels. Emphasis on the "hands-on" approach to learning.

2 Class Hours, 2 Laboratory Hours

Prerequisite: BU 130 Introduction to Electronic Data Processing

BU 231 Business Data Processing 3 Credits

Continuation of programming unit record equipment. Laboratory projects covering business data processing cycle. Student is required to design and punch tabulating cards, program and write up several projects. The final projects are tabulated on the unit record equipment by the student. **2 Class Hours, 2 Laboratory Hours.**

Prerequisite: BU 230 Business Data Processing

BU 241 Computer Programming — RPG 3 Credits

Review of fundamental concepts of stored-program computers, various memory devices, and input-output media. IBM System 360 hardware and concepts. Preparation and execution of programs in RPG (Report Program Generator) language.

2 Class Hours, 2 Laboratory Hours

Prerequisite: BU 231 Business Data Processing

BU 251 Office Management 3 Credits

The concept of planning, directing, controlling and actuating office work through systems, layouts, personnel control and the selection of equipment.

3 Class Hours

BU 252 Business Report Writing 3 Credits

Training in logical analysis of business case problems, applied to the preparation of accurate written reports. Methods and skills used in formal and informal business writing. Preparation of tables, charts, reference citations and bibliographies.

3 Class Hours

Prerequisite: BU 151 Business English

BU 253 Personnel Administration 3 Credits

Techniques and methods used to achieve utilization of manpower in business through proper selection, placement, training, job evaluation, wage setting, employee relations.
3 Class Hours

BU 255 Principles of Management

An introductory course in the principles of managerial practices. A functional approach explaining planning, organizing, directing and controlling and their role as principles of management.
3 Class Hours

BU 260 Engineering Shorthand 3 Credits

Emphasis on increasing knowledge of basic information and vocabulary, with dictation and transcription of specialized material from selected areas of the physical sciences.
2 Class Hours, 3 Laboratory Hours
Prerequisites: BU 163 Typewriting and BU 166 Shorthand

BU 261 Engineering Shorthand 3 Credits

Emphasis on increasing knowledge of basic information and vocabulary, with dictation and transcription of specialized material from selected areas of engineering and scientific research.
2 Class Hours, 3 Laboratory Hours
Prerequisite: BU 260 Engineering Shorthand

BU 263 Technical Typewriting 3 Credits

Specialized training in understanding the correct procedures in preparing typewritten technical materials. Emphasis on typing equations, formulas, laboratory reports.
2 Class Hours, 3 Laboratory Hours
Prerequisite: BU 260 Engineering Shorthand

BU 270 Executive Shorthand 3 Credits

Emphasis on increasing knowledge of basic information and vocabulary, with dictation and transcription of specialized material from the fields of finance and real estate.
2 Class Hours, 3 Laboratory Hours
Prerequisites: BU 163 Typewriting and BU 166 Shorthand

BU 271 Executive Shorthand 3 Credits

Emphasis on increasing knowledge of basic information and vocabulary, with dictation and transcription of specialized material from the fields of law and insurance.
2 Class Hours, 3 Laboratory Hours
Prerequisite: BU 270 Executive Shorthand

BU 274 Office Practice 4 Credits

Practical experiences in the operation of calculating, duplicating, transcribing machines. Emphasis on grooming, business ethics, problem-solving techniques in an office atmosphere.
2 Class Hours, 4 Laboratory Hours
Prerequisites: BU 163 Typewriting and BU 167 Transcription

BU 275 Office Practice 4 Credits

Continued development of office machines operations. Useful application of filing procedures. Opportunity for advanced study and skill development projects.
2 Class Hours, 4 Laboratory Hours
Prerequisite: BU 274 Office Practice

BU 279 Medical Office Practice 3 Credits

Development of practical usage of medical forms and other applicable papers prepared by doctors and hospitals. Introduction to advanced medical transcription techniques through the use of case histories, admission and discharge summaries, surgical reports. For Medical Office Assistant and Medical Record Technology students.
2 Class Hours, 3 Laboratory Hours
Prerequisite: BU 163 Typewriting

BU 280 Speed Shorthand 3 Credits

Introduction of special short cuts to increase efficiency in taking dictation at higher speeds. Dictation of a variety of materials from 100 to 160 words per minute. **2 Class Hours, 3 Laboratory Hours**

Prerequisite: BU 261 Engineering Shorthand or BU 271 Executive Shorthand

BU 283 Medical Office Practice 3 Credits

Practical experiences in the operation of a medical office. Development of proficiency in the use of various calculating, transcribing and duplicating machines. For Medical Office Assistant and Medical Record Technology students.

2 Class Hours, 3 Laboratory Hours

Prerequisite: BU 279 Medical Office Practice

BU 284 Medical Office Accounting 3 Credits

The useful application of record-keeping, beginning with the basic accounting concepts and utilizing the practical transitions through the entire accounting cycle. Emphasis on the books of entry and their application in preparing various accounting statements used in a medical office. For Medical Office Assistant students.

2 Class Hours, 3 Laboratory Hours

BU 287 Salesmanship 4 Credits

The principles of sales with practical applications. Prospecting, product and service analysis, meeting objections, demonstrating, sales psychology, preparation of sales presentations. **4 Class Hours**

BU 288 Advertising 3 Credits

Development, economics, functions of advertising. Cost and application, the various media, advertising as a vocation, testing and research utilization.

3 Class Hours

Prerequisite: BU 292 Marketing

BU 289 Management: A Behavioral Approach 3 Credits

A comparative analysis of managerial theories and an integration of selected social sciences to investigate organizational problems related to managerial functions. Communications, decision-making, control theory. The impact of the organizational environment upon human behavior. **3 Class Hours**

BU 291 Sales Management 3 Credits

Development of control techniques in the administration of sales forces. Incentive systems, territory planning, development of sales potentials, personnel problems peculiar to this field. **3 Class Hours**

Prerequisite: BU 142 Business Statistics

BU 292 Marketing 3 Credits

The distributive phase of economics, from the time a good or service is produced up to the point of consumption. Marketing functions, classification of goods and of markets, marketing channels and agents in each. Lectures, discussions, case problems. **3 Class Hours**

BU 294 Advertising 4 Credits

Detailed development of advertisements, copy and layout, method and problems of reproduction. Planning the advertising campaign with step-by-step development. Lectures, demonstrations, field trips. **4 Class Hours**

Prerequisite: BU 288 Advertising

BU 295 Marketing Research 3 Credits

Methods of collecting and interpreting marketing information. Specific applications to problems in market development, market potential, sales management. Case studies. **3 Class Hours**

Prerequisites: BU 142 Business Statistics and BU 298 Marketing

BU 296 Credit 3 Credits

Types of credit, credit department organization, credit reports and information, credit risk factors, collection procedures, analysis of financial statements.

3 Class Hours
Prerequisite: BU 102 Accounting

BU 297 Marketing Management 3 Credits

Analysis of problems and activities in managing the marketing responsibility of manufacturing and wholesaling firms. Study of formulation of product, brand, distribution, pricing policies and their applications. **3 Class Hours**

Prerequisite: BU 298 Marketing

BU 298 Marketing 3 Credits

Continuation of BU 292 Marketing. Application of fundamental precepts established in the basic course. Detailed study of the functional analysis of institutions and marketing costs. Relationship to advertising and sales promotion. Advanced marketing philosophy. Lectures and discussions with emphasis on case problems.

3 Class Hours
Prerequisite: BU 292 Marketing

BU 299 Retailing 3 Credits

Fundamentals of purchasing, merchandising, pricing, promotion. Principles of retail management. Coordination of accounting and basic marketing concepts at the market focal point. **3 Class Hours**

Prerequisite: BU 292 Marketing

CHEMISTRY

CH 101 Chemistry 4 Credits

Fundamental concepts of inorganic chemistry including composition of substances, kinetic and molecular theories, atomic structure and bonding, solutions and colloids, ions in solution and nucleonics. For Dental Hygiene, Medical Record Technology, Medical Office Assistant and Nursing students.

3 Class Hours, 2 Laboratory Hours

CH 102 Chemistry 4 Credits

Fundamental concepts of organic and biological chemistry including proteins, fats, carbohydrates and their role in metabolism. Also a chemical consideration of vitamins, hormones, enzymes and the fluids of the body. For Dental Hygiene, Medical Record Technology, Medical Office Assistant and Nursing students.

3 Class Hours, 2 Laboratory Hours

CH 104 Chemistry 4 Credits

Basic laws, principles and theories of chemistry. Structure of matter, periodicity, chemical action, states of matter and solutions, elements of organic chemistry. For Civil and Mechanical Technology and Engineering Secretarial students.

3 Class Hours, 2 Laboratory Hours

CH 110 Chemistry 5 Credits

Fundamental principles and laws underlying chemical action, their integration with the theories of atomic structure and chemical bonding, and correlation with the position of the elements on the periodic table. Atomic structure, the periodic table, chemical bonding, water, the states of matter, stoichiometric calculations. For Chemical Technology students. **4 Class Hours, 3 Laboratory Hours**

CH 111 Chemistry 5 Credits

A continuation of CH 110 Chemistry to include solutions, oxidation-reduction, thermochemistry, ionization, acids, bases and salts, chemical equilibruim and coordination compounds. For Chemical Technology students.

4 Class Hours, 3 Laboratory Hours
Prerequisite: CH 110 Chemistry

CH 112 Chemistry 6 Credits

First in a sequence of courses to familiarize the student with analytical chemistry in which both qualitative analysis and quantitative analysis are integrated. Theory in solution equilibria and chemical methods of separation and measurement. The laboratory work in qualitative chemistry includes the identification of the more important cations and anions and the analysis of mixtures. The quantitative portion includes gravimetry, neutralimetry, precipitimetry, redoximetry and compleximetry. For Chemical Technology students.

4 Class Hours, 6 Laboratory Hours
Prerequisite: CH 111 Chemistry

CH 121 Chemistry 4 Credits

Fundamental concepts of inorganic chemistry, including composition of substances, kinetic and molecular theories, atomic structure and bonding, solutions and ionization of acids, bases and salts. For Medical Laboratory Technology students.

3 Class Hours, 3 Laboratory Hours

CH 122 Chemistry 4 Credits

Coordination chemistry, oxidation reduction and electrochemistry, the colloidal state, complex equilibrium. These concepts are applied by study of qualitative cation analysis in the laboratory. For Medical Laboratory Technology students.

3 Class Hours, 3 Laboratory Hours
Prerequisites: CH 121 Chemistry and MA 101 Mathematics

CH 123 Chemistry 4 Credits

Continuation of CH 122 Chemistry to include theory and laboratory in volumetric and gravimetric analysis. For Medical Laboratory Technology students.

3 Class Hours, 3 Laboratory Hours
Prerequisite: CH 122 Chemistry

CH 132 General Chemistry 4 Credits

Fundamental principles, laws and theories of chemistry relating to simple atomic and molecular structure, periodicity, bonding, stoichiometric relationship, states of matter, water. For Liberal Arts non-science majors and Environmental Health Technology students.

3 Class Hours, 3 Laboratory Hours

CH 133 General Chemistry 4 Credits

A continuation of CH 132 General Chemistry. Solutions, ionization and electrolytes, acids, bases and salts, pH, colloids, equilibrium. For Liberal Arts non-science majors and Environmental Health Technology students.

3 Class Hours, 3 Laboratory Hours
Prerequisite: CH 132 General Chemistry

CH 134 General Chemistry 4 Credits

A continuation of CH 133 General Chemistry. Basic concepts of organic and nuclear chemistry, descriptive chemistry of some common elements. For Liberal Arts non-science majors and Environmental Health Technology students.

3 Class Hours, 3 Laboratory Hours
Prerequisite: CH 133 General Chemistry

CH 135 Chemistry 4 Credits

Fundamental principles and laws underlying chemical action, their integration with the theories of atomic structure and chemical bonding, and correlation with the position of the elements on the periodic table. Atomic structure, the periodic table, chemical bonding, water, the states of matter, stoichiometric calculations. For Liberal Arts science majors and Engineering Science students.

3 Class Hours, 3 Laboratory Hours

CH 136 Chemistry 4 Credits

Continuation of CH 135 Chemistry. Solutions, oxidation-reduction, ionization and electrolysis, acids, bases and salts, chemical equilibrium and coordination compounds. For Liberal Arts science majors and Engineering Science students.

3 Class Hours, 3 Laboratory Hours
Prerequisite: CH 135 Chemistry

CH 137 Chemistry 4 Credits

Ionization constants, solubility products and equilibrium constants. Laboratory work includes the detection and identification of the more important cations and anions including work on the analysis of mixtures. For Liberal Arts science majors and Engineering Science students.

3 Class Hours, 3 Laboratory Hours
Prerequisite: CH 136 Chemistry

CH 224 Organic Chemistry 4 Credits

An integrated general presentation of theory, nomenclature, preparation, properties, reactions, occurrence and uses of important aliphatic and aromatic organic compounds. For Medical Laboratory Technology students.

3 Class Hours, 3 Laboratory Hours
Prerequisite: CH 123 Chemistry

CH 225 Organic Chemistry 3 Credits

Continuation of CH 224 Organic Chemistry and includes such topics as proteins, lipids and carbohydrates, alkaloids, steroids, vitamins and enzymes. For Medical Laboratory Technology students.

2 Class Hours, 3 Laboratory Hours
Prerequisite: CH 224 Organic Chemistry

CH 226 Instrumental Analysis ~~4~~ Credits

Theory and laboratory instruction in electrochemical methods of analysis, including potentiometry, polarography, coulometry, conductimetry and radio-chemistry. For Medical Laboratory Technology students.

2 Class Hours, 6 Laboratory Hours
Prerequisite: CH 123 Chemistry

CH 227 Instrumental Analysis ~~4~~ Credits

Instrumental methods of analytical chemistry, primarily optical methods. Laboratory work in visible, ultraviolet and infrared spectrophotometry. Column, paper, thin layer, ion exchange, gas chromatography. Chemical microscopy, emission spectroscopy, electrophoresis. For Medical Laboratory Technology students.

2 Class Hours, 6 Laboratory Hours
Prerequisite: CH 224 Organic Chemistry

CH 241 Quantitative Analysis 5 Credits

A continuation of CH 112 Chemistry with an emphasis on the application of physical and chemical theory to the more important gravimetric, volumetric and elementary instrumental methods of analysis. Laboratory work requires statistical treatment of analytical data and the practical application of computer programming for quantitative analysis. For Chemical Technology students.

3 Class Hours, 6 Laboratory Hours
Prerequisite: CH 112 Chemistry

CH 242 Quantitative Analysis 5 Credits

Instrumental methods of analytical chemistry, primarily optical methods. Laboratory work in visible, ultraviolet and infrared spectrophotometry. Column, paper, thin layer, gas chromatography. Chemical microscopy and emission spectroscopy. For Chemical Technology students. **3 Class Hours, 6 Laboratory Hours**
Prerequisites: CH 241 Quantitative Analysis and CH 251 Organic Chemistry

CH 243 Instrumental Methods of Analysis 5 Credits

Instrumental methods of analytical chemistry, primarily electrochemical methods. Laboratory experiments in potentiometry, polarography, coulometry, conductimetry, radiochemistry and electrogravimetry. Technical reports required. For Chemical Technology students. **3 Class Hours, 6 Laboratory Hours**
Prerequisite: CH 241 Quantitative Analysis

CH 251 Organic Chemistry 5 Credits

Basic principles of organic chemistry, employing the reaction mechanisms and transition state considerations. Structure and reactivity, alkanes, free radicals, alkenes, carbonium ion theory, electrophilic addition, alkynes, dienes, resonance, electrophilic aromatic substitutions, arenes, alkyl halides and SN 1 vs. SN 2, E 1 vs. E 2. Laboratory stresses basic techniques of reactions, separations and isolations. For Chemical Technology students and Liberal Arts science majors.

3 Class Hours, 6 Laboratory Hours
Prerequisite: CH 112 Chemistry or CH 137 Chemistry

CH 252 Organic Chemistry 5 Credits

A continuation of CH 251 Organic Chemistry including the reaction mechanism and transition state considerations. Alcohols, carboxylic acids, functional derivatives of carboxylic acids, nucleophilic acyl substitution, ethers, aldehydes, ketones, carbanions, nucleophilic addition and synthesis problems. For Chemical Technology students and Liberal Arts Science majors. **3 Class Hours, 6 Laboratory Hours**
Prerequisite: CH 251 Organic Chemistry

CH 253 Organic Chemistry 5 Credits

The identification of organic compounds by correlation of fundamental properties, and the behavior of organic compounds with their structures. Preparation and properties of polymers. For Chemical Technology students and Liberal Arts science majors. **3 Class Hours, 6 Laboratory Hours**
Prerequisite: CH 252 Organic Chemistry

CH 260 Stoichiometry 4 Credits

A first course in chemical engineering background. Application of chemistry, physics and mathematics in solving engineering problems. Special emphasis on dealing with material and energy balances and the solution of problems. For Chemical Technology students. **3 Class Hours, 3 Laboratory Hours**
Prerequisites: CH 112 Chemistry and MA 140 College Algebra and Trigonometry

CH 262 Unit Operations 4 Credits

A theoretical treatment of the basic unit operations of chemical engineering, including fluid flow, heat transfer, evaporation. Laboratory experimentation is conducted in the above areas using pilot plant size equipment. For Chemical Technology students. **3 Class Hours, 3 Laboratory Hours**
Prerequisite: CH 260 Stoichiometry

CH 263 Unit Operations 5 Credits

A theoretical treatment of the basic unit operations of chemical engineering, including evaporation, distillation, drying, gas absorption and filtration. Laboratory experimentation is conducted in the above areas using pilot plant size equipment. For Chemical Technology students. **3 Class Hours, 6 Laboratory Hours**
Prerequisite: CH 262 Unit Operations

CIVIL TECHNOLOGY

CT 110 Architectural Drawing — 1 Credit

Development of working drawings for residential construction, including floor plans, elevations, sections, details, mechanical and electrical layouts.

3 Laboratory Hours
Prerequisite: MT 110 Engineering Drawing

CT 119 Plain Concrete — 3 Credits

A study of cements, aggregates and plain concrete, including the testing of cements and aggregates, the design, mixing, testing, placing, curing control and inspection of plain concrete. ASTM and AASHO standards. Introduction to bituminous concrete.

2 Class Hours, 3 Laboratory Hours

CT 140 Surveying — 5 Credits

Plane surveying including distance measurement, note keeping, compass surveying, leveling, angle measurement, care and use of instruments, stadia, traversing, coordinates, area computation, searching, deed descriptions.

3 Class Hours, 6 Laboratory Hours
Prerequisite: MA 140 College Algebra and Trigonometry

CT 141 Surveying — 4 Credits

Continuation of CT 140 Surveying, including observation of meridian, triangulation, land surveys, horizontal and vertical control, photogrammetry, mapping.

2 Class Hours, 6 Laboratory Hours
Prerequisite: CT 140 Surveying

CT 153 Strength of Materials — 4 Credits

Study of stress and strain, elasticity, shear and moment in beams, stresses in beams, torsion, combined stresses, mechanical properties of structural materials. Laboratory work includes mechanical tests on wood, concrete and metals.

3 Class Hours, 3 Laboratory Hours
Prerequisites: MT 155 Applied Mechanics and
MA 141 Calculus

CT 211 Architectural Drawing — 1 Credit

Continuation of CT 110 Architectural Drawing including cabinet details, plot plans and architectural rendering. Emphasis on the development of perspective drawings.

3 Laboratory Hours
Prerequisite: CT 110 Architectural Drawing

CT 212 Architectural Drawing — 1 Credit

Development of a set of working drawings for a small commercial building including floor plans, elevations, sections, details, mechanical and electrical layouts, window and door schedules. Term project.

3 Laboratory Hours
Prerequisite: CT 211 Architectural Drawing

CT 220 Reinforced Concrete Design — 4 Credits

Fundamental behavior of reinforced concrete. Design, analysis and detailing of rectangular beams, T-beams, beams reinforced for compression, columns and footings. Major emphasis on ultimate strength design methods. An integrated design and detailing project.

3 Class Hours, 3 Laboratory Hours
Prerequisite: CT 254 Strength of Materials

CT 221 Structural Steel Design — 4 Credits

Fundamental theory and principles necessary for design of simple steel structures. Design, investigation and detailing of beams, columns, tension and compression members and their connections. Composite beams. An integrated design and detailing project.

3 Class Hours, 3 Laboratory Hours
Prerequisite: CT 254 Strength of Materials

CT 230 Building Design 4 Credits

Building materials, manufacturing processes and construction methods. Application of architectural design principles to institutional type buildings. Term project.

3 Class Hours, 3 Laboratory Hours

Prerequisite: CT 250 Estimating and Construction Planning

CT 250 Estimating and Construction Planning 4 Credits

A systematic approach to estimating building project costs combined with a study of construction management and the critical path method of scheduling.

3 Class Hours, 3 Laboratory Hours

Prerequisite: CT 212 Architectural Drawing or permission of instructor

CT 254 Strength of Materials 3 Credits

A continuation of CT 153 Strength of Materials including deflection of beams. Analysis of statically indeterminate beams, restrained and continuous. Columns, selected topics.

3 Class Hours

Prerequisite: CT 153 Strength of Materials

CT 260 Hydraulics 3 Credits

Basic course in hydraulics including properties of fluids, hydrostatics, fluid motion flow in or through orifices, nozzles, pipes, weirs, open channels, hydraulic machinery, and application and limitations of selected design aids. **3 Class Hours**

Prerequisite: MT 155 Applied Mechanics

CT 270 Soil Mechanics 4 Credits

Origin and nature of soil, soil density, sampling, soil water, flow nets and seepage forces. Classification, frost action, stabilization, stress, consolidation, settlement, shearing strength, stability, embankments, dams, retaining walls, piles and underground conduits. The laboratory covers ASTM and AASHO specifications used in classifying and predicting behavior of soils. **3 Class Hours, 3 Laboratory Hours**

Prerequisite: CT 153 Strength of Materials

CT 273 Environmental Sanitation 4 Credits

Environmental sanitation including water supplies and treatment, sewerage and sewage treatment, unit operations and refuse sanitation. Laboratories include field trips, design problems in plants, distribution and collection systems.

3 Class Hours, 3 Laboratory Hours

CT 274 Environmental Sanitation 3 Credits

Comunicable diseases, biological and chemical aspects of water and sewage treatment, air pollution and industrial wastes. **2 Class Hours, 3 Laboratory Hours**

Prerequisite: CH 104 Chemistry

CT 283 Route Surveying and Highway Design 4 Credits

Simple and compound curves, vertical curves, spirals and earthwork. Selected topics in route selection, field technique, route design, construction and maintenance. Computer applications. Term project. **3 Class Hours, 3 Laboratory Hours**

Prerequisites: CT 140 Surveying and MA 140 College Algebra and Trigonometry

DENTAL HYGIENE

DH 100 Dental Hygiene and Ethics 2 Credits

History of dental hygiene. Ethical practice, dental jurisprudence and proper oral hygiene technique. **2 Class Hours**

DH 101 Dental Manikin Practice 3 Credits

Removal of simulated deposits and accretions on the teeth of manikins by use of dental instruments. Proper scaling and polishing techniques, tooth-brushing and general mouth cleanliness are stressed. **1 Class Hour, 4 Laboratory Hours**

Prerequisites: DH 100 Dental Hygiene and Ethics and DH 140 Dental Anatomy and BI 171 Anatomy and Physiology

DH 103 Clinical Dental Hygiene 2 Credits

Clinical application of DH 101 Dental Manikin Practice.

1 Class Hour, 3 Laboratory Hours

Prerequisites: DH 101 Dental Manikin Practice and DH 141 Dental Anatomy and BI 172 Anatomy and Physiology

DH 121 Hygiene 2 Credits

The various factors (physical, social, psychological) which affect the total health status of the individual, and the effective application of sound health principles in solving health problems. **2 Class Hours**

DH 140 Dental Anatomy 3 Credits

Lecture and laboratory study of the gross anatomy of the maxilla, mandible, individual teeth. The significance of the foregoing to dental physiology and the rendering of a dental prophylaxis. **2 Class Hours, 2 Laboratory Hours**

DH 141 Dental Anatomy 3 Credits

Continuation of DH 140 Dental Anatomy. **2 Class Hours, 2 Laboratory Hours**
Prerequisite: DH 140 Dental Anatomy

DH 158 Dental Office Practice 3 Credits

General dental office procedures, psychology of patient relations, dental assisting and operating room procedure, and the importance to the dental hygienist of being a member of the dental health team. **2 Class Hours, 2 Laboratory Hours**

DH 204, 205, 206 Clinical Dental Hygiene 4, 4, 4 Credits

Dental prophylaxis performed on patients, oral observation and inspection, topical application of fluorides, and chairside home care instructions given to patients. Practice in dental assisting, sterilizing techniques, use of cavitron, instrument sharpening, transillumination, charting, completing medical and dental histories. Use and maintenance of dental unit. Off-campus dental office experience in assisting and observation. **1 Class Hour, 12 Laboratory Hours each**
Prerequisites: All Dental Hygiene and Biology courses in terms 1, 2 and 3 for DH 204
DH 204 Clinical Dental Hygiene for DH 205
DH 205 Clinical Dental Hygiene for DH 206

DH 244 Preventive Dentistry 3 Credits

Preventive methods for maintaining the health of the mouth and control of dental caries. Detailed studies of the latest methods of caries control through laboratory tests, diet and fluoridation. Study of teeth not in normal occlusion, classification and probable factors causing orthodontic conditions. Introduction to abnormal oral conditions found in children, with possible methods of treatment or correction.
3 Class Hours
Prerequisites: BI 176 Dental Histology and
DH 141 Dental Anatomy and BI 159 Microbiology

DH 251 Dental Radiography 2 Credits

Proper use of the X-ray machine and accessories. Exposure, development and mounting of dental films. Procedures to safeguard the patient and operator from hazards of radiation. Understanding the use of X-ray in clinical practice of dentistry.
1 Class Hour, 2 Laboratory Hours
Prerequisites: DH 103 Clinical Dental Hygiene and DH 141 Dental Anatomy
and BI 172 Anatomy and Physiology

DH 252 Clinical Dental Radiography 1 Credit

Clinical application of principles and practices learned in DH 251 Dental Radiography. **2 Laboratory Hours**
Prerequisite: DH 251 Dental Radiography

DH 253 Clinical Dental Radiography 1 Credit

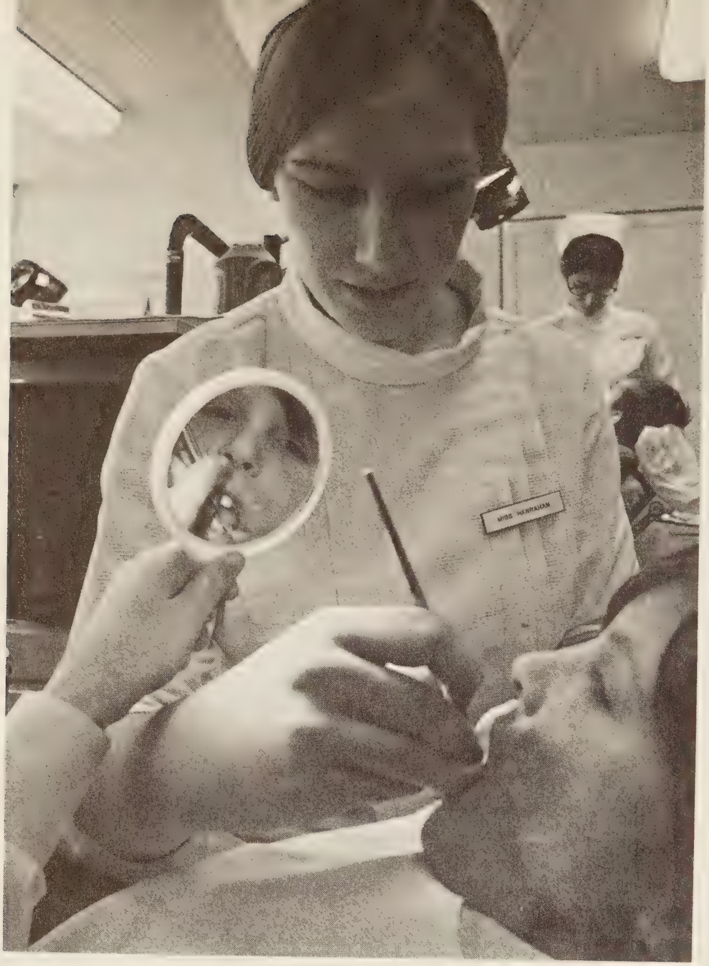
Continuation of DH 252 Clinical Dental Radiography. **2 Laboratory Hours**
Prerequisite: DH 252 Clinical Dental Radiography

DH 254 General Pathology 2 Credits

A broad picture of the disease process through a study of common general diseases, their causes, results, treatment. Emphasis on the principles of inflammation, healing and repair. **2 Class Hours**
Prerequisites: BI 159 Microbiology and BI 176 Dental Histology
and BI 172 Anatomy and Physiology

DH 255 Oral Pathology 2 Credits

Oral diseases, their causes, recognition and treatment, with particular emphasis on the application of the principles covered in DH 254 General Pathology.
2 Class Hours
Prerequisite: DH 254 General Pathology



DH 260 Dental Laboratory Practice 3 Credits

An introduction to the restorative phase of dentistry. Dental laboratory procedures by lectures, demonstrations and actual processing of laboratory projects by students. History, property and use of various dental laboratory materials.

2 Class Hours, 2 Laboratory Hours
Prerequisite: DH 141 Dental Anatomy

DH 261 Nutrition 3 Credits

Basic nutrition, essential nutrients, requirements and recommended allowances. The role of dietary intake in an individual's dental health. **3 Class Hours**

Prerequisites: CH 102 Chemistry and BI 172 Anatomy and Physiology and BI 176 Dental Histology

DH 267 Anesthesia 2 Credits

Principles of general and local anesthetics and patient management.

2 Class Hours
Prerequisites: All preceding DH and BI courses in Terms 1, 2, 3 and 4

DH 268 Special Dental Practice 3 Credits

Various specialty practices in dentistry: periodontia, prosthetics, orthodontics, endodontics, exodontics, oral surgery and maxio-facial surgery. Nature, procedure, differences in types of practices and the role of the dental hygienist in each practice. **3 Class Hours**

Prerequisites: All preceding DH and BI courses in Terms 1, 2, 3, 4 and 5

DH 283 Dental Health Education 3 Credits

Areas and principles for patient instruction in professional and personal care procedures. **3 Class Hours**

Prerequisites: All preceding DH and BI courses in Terms 1 and 2

DH 284 Dental Pharmacology 3 Credits

The action of drugs, their sources, properties, preparation, administration. The mathematics of pharmacy and prescription writing. Therapy of oral conditions.

3 Class Hours

Prerequisites: BI 172 Anatomy and Physiology and BI 159 Microbiology

DH 287 Public Health 2 Credits

An over-all picture of public health (history, philosophy, environmental sanitation, structure, services) with emphasis on community dental health. Field trips to various health agencies. **2 Class Hours**

ENVIRONMENTAL HEALTH TECHNOLOGY

EH 103 Milk Sanitation 4 Credits

Application of sanitary principles to the production, processing and distribution of milk and milk products. Milk codes and inspection procedures. Field trips to farms and processing plants. **Must be taken concurrently with BI 250 Microbiology**

3 Class Hours, 3 Laboratory Hours

EH 112 Environmental Health 2 Credits

Principles of environmental disease control and their application to the environment. Field trips to various facilities to observe control principles in actual use.

2 Class Hours

EH 201 Atmospheric Pollution Control 4 Credits

Air pollution in relation to public health. Sources and classification of pollutants, pollution meteorology, sampling and measuring techniques, principles and methods employed in control. **3 Class Hours, 3 Laboratory Hours**

EH 202 Community Sanitation 4 Credits

Urban environmental health problems including refuse sanitation and disposal methods, rodent identification and control methods, principles of healthful housing and housing codes. **3 Class Hours, 3 Laboratory Hours**

EH 203 Food Sanitation 4 Credits

Sanitation in the processing, storage, distribution and serving of food including regulations and inspection procedures. **3 Class Hours, 3 Laboratory Hours**

Prerequisite: EH 103 Milk Sanitation

EH 204 Water Supply and Pollution Control 4 Credits

Development, treatment, distribution of water supplies including development and protection of water sources, principles and methods of water treatment, treatment plant operation and maintenance. **3 Class Hours, 3 Laboratory Hours**

Prerequisite: BI 106 Limnology

EH 205 Water Supply and Pollution Control 4 Credits

Collection, treatment, disposal of liquid wastes including composition of sanitary and industrial wastes, principles and methods of treatment and disposal, treatment plant operation and maintenance. **3 Class Hours, 3 Laboratory Hours**

Prerequisite: EH 204 Water Supply and Pollution Control

EH 206 Radiological Health 3 Credits

Sources and characteristics of radiation including X-ray generating equipment, principles of radiation biology, principles of radiation protection, radiation regulations and inspection procedures. **2 Class Hours, 3 Laboratory Hours**

Prerequisite: PH 110 Radiation Physics

EH 208 Environmental Health Administration 3 Credits

Organization, programs and services of public health departments, including the historical and legal aspects of public health activities. Fundamentals of effective public relations. **2 Class Hours, 2 Laboratory Hours**

ELECTRICAL TECHNOLOGY

ET 101, 102, 103 Electrical Shop 2, 2, 1 Credits

A sequence of three courses to familiarize the student with general electrical trade practices and the acquiring of limited basic manipulative skills. Experience in the installation, fabrication and maintenance of electrical equipment. Training in the different electrical circuits used in wiring systems as found in residential and industrial troubleshooting and repair of electrical equipment. Study and practice of fabrication methods, basic manufacturing processes and shop safety practices used in the electrical industry. **1 Class Hour, 3 Laboratory Hours for ET 101**

1 Class Hour, 3 Laboratory Hours for ET 102

3 Laboratory Hours for ET 103

Prerequisites: ET 101 Electrical Shop for ET 102

ET 102 Electrical Shop for ET 103

ET 113 Electricity and Magnetism 4 Credits

Characteristics of electrical and electronic circuits founded upon electric and magnetic field concepts. **3 Class Hours, 3 Laboratory Hours**

Prerequisite: PH 143 Physics

ET 120 Electrical Circuits 5 Credits

Fundamentals of electrical circuits and application of circuit laws, theorems and measuring techniques. **4 Class Hours, 3 Laboratory Hours**

ET 121 Electrical Circuits 5 Credits

Continuation of ET 120 Electrical Circuits emphasizing single phase and polyphase circuits. **4 Class Hours, 3 Laboratory Hours**

Prerequisite: ET 120 Electrical Circuits

ET 127 Electricity 4 Credits

Beginning of a two-term sequence of applied electrical concepts emphasizing DC circuitry and an introduction to electrical machinery. For Mechanical Technology students. **3 Class Hours, 3 Laboratory Hours**

Prerequisite: PH 145 Physics

ET 128 Electricity 4 Credits

A continuation of ET 127 Electricity with emphasis on AC circuitry, measurements, power distribution, transformers and AC machines. For Mechanical Technology students. **3 Class Hours, 3 Laboratory Hours**

Prerequisite: ET 127 Electricity

ET 129 Electronics 4 Credits

An applied electronics course with related laboratory experiments. An introduction to the theory and operation of electronic components, with emphasis on their applications. For Mechanical Technology students. **3 Class Hours, 3 Laboratory Hours**

Prerequisite: ET 128 Electricity

ET 130 Engineering Drawing 1 Credit

Principles of parallel projection. Development of drafting skills to include lettering and proper line construction. **3 Laboratory Hours**

ET 131 Engineering Drawing 1 Credit

Shop processes and procedures to facilitate the understanding of drafting practices. Tolerancing, representation of threads and fasteners, preparation of assembly drawings. **3 Laboratory Hours**

Prerequisite: ET 130 Engineering Drawing

ET 141 Electricity 3 Credits

Basic course in applied electricity as related to the construction industry. Distribution system, lighting system, heating, motors, generators. Laboratory includes general trade practices, National Electrical Code and safety. For Civil Technology students.

2 Class Hours, 3 Laboratory Hours

Prerequisite: MA 140 College Algebra and Trigonometry

ET 223 Network Analysis 4 Credits

Analysis of complex electrical and electronic networks by the application of Kirchhoff's laws, Thevenin's theorem, Norton's theorem, superposition, vector loci methods, loop and nodal analysis, transfer function techniques. The computer is used as an analytical tool where feasible. **4 Class Hours**

Prerequisites: ET 121 Electrical Circuits and ET 113 Electricity and Magnetism

ET 230 Electrical Design 1 Credit

Application of electrical drafting principles to the planning of power layout and lighting design. Manufacturers' catalogs, charts, and the National Electrical Code form essential reference material. Lists of materials and schedules are prepared as parts of each project. **3 Laboratory Hours**

Prerequisite: ET 131 Engineering Drawing

ET 231 Electrical Design 1 Credit

Application of drafting principles to electronic circuitry. Student projects include problems typical of those found in the electronics and controls areas.

3 Laboratory Hours

Prerequisites: ET 230 Electrical Design and ET 251 Electronics

ET 240 Electrical Machines 5 Credits

Theory, operation, application of DC machines and their manual, magnetic and solid state control. Introduction to single and polyphase silicon diode and thyristor rectifiers, their design, characteristics and applications.

4 Class Hours, 3 Laboratory Hours
Prerequisites: ET 121 Electrical Circuits and
ET 113 Electricity and Magnetism

ET 241 Electrical Machines 5 Credits

Basic theory of single phase and polyphase transformers. Principles of operation and control of AC machines and solid state inverters.

4 Class Hours, 3 Laboratory Hours
Prerequisite: ET 240 Electrical Machines

ET 242 Automatic Controls 5 Credits

Principles of open and closed loop systems and the theory, operation, application of industrial equipment used in control systems. Associated laboratory permits examination, operation, trouble-shooting of these control devices.

4 Class Hours, 3 Laboratory Hours
Prerequisite: ET 241 Electrical Machines

ET 250 Electronics 5 Credits

Introduction to electronic building blocks. Characteristics of semiconductor and vacuum devices. Multi-element and special types of active devices.

4 Class Hours, 3 Laboratory Hours
Prerequisites: ET 113 Electricity and Magnetism, ET 121 Electrical Circuits
and MA 141 Calculus

ET 251 Electronics 5 Credits

Use of electronic building blocks. Semiconductor and vacuum devices in functioning circuitry. Prediction and analysis of performance.

4 Class Hours, 3 Laboratory Hours
Prerequisite: ET 250 Electronics

ET 252 Electronics 5 Credits

Behavior of large signal devices, graphical analysis, applications of feedback, sinusoidal oscillators, wave shaping, non-sinusoidal oscillators.

4 Class Hours, 3 Laboratory Hours
Prerequisite: ET 251 Electronics

ET 253 Electronics 5 Credits

Cascaded circuits. Circuits with feedback over several stages, power supplies, counters, functional devices.

4 Class Hours, 3 Laboratory Hours
Prerequisite: ET 252 Electronics

ET 258 Introduction to System Logic 3 Credits

Logic analysis: application to analog, digital and non-computer areas. Mathematical methods for analysis of computer logic and computer-type problems. Study of building blocks, sub-system and system operations. Periodical laboratory exercises and demonstrations. (Non-electrical and part-time students need faculty approval.)

2 Class Hours, 2 Laboratory Hours
Prerequisites: MA 142 Calculus and
ET 223 Network Analysis

ET 260 Principles of Industrial Management 3 Credits

Principles of industrial organization and management of plant and personnel. Key topics include product development, work measurement, method analysis, materials control, job analysis, descriptions and evaluation, letters of application and the interview situation. **3 Class Hours**

ET 264 Microcircuits 3 Credits

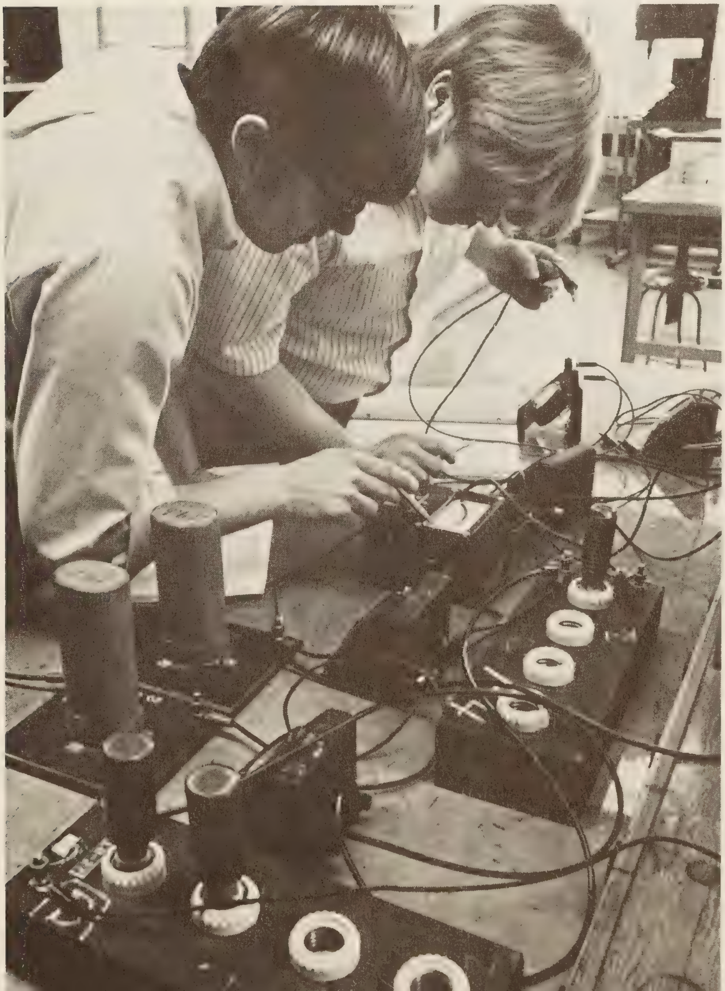
Study of the construction and processing of monolithic integrated circuits including epitaxy, diffusion, wafer processing and photo lithography. Available components, applications and limitations of microcircuits. Thin and thick film devices, testing and interpreting specifications. Economic and reliability considerations. Large scale integration concepts, systems applications, new developments.

3 Class Hours

ET 265 Principles of Solid State Devices 2 Credits

Solid state physical principles as applied to electronic devices. **2 Class Hours**

Prerequisite: ET 113 Electricity and Magnetism



LIBERAL ARTS

LA 101, 102, 103 Beginning Spanish 4, 4, 4 Credits

Basic principles of grammar and syntax. Emphasis on oral practice in classroom, supplemented by work in audio-lingual laboratory. Reading of graded literary texts.

4 Class Hours, 1 Laboratory Hour each
Prerequisite: LA 101 Beginning Spanish for LA 102
LA 102 Beginning Spanish for LA 103

LA 110, 111, 112 Beginning French 4, 4, 4 Credits

Basic principles of grammar and syntax. Emphasis on oral practice in classroom, supplemented by work in audio-lingual laboratory. Reading of graded literary texts.

4 Class Hours, 1 Laboratory Hour each
Prerequisite: LA 110 Beginning French for LA 111
LA 111 Beginning French for LA 112

LA 119, 120, 121 Beginning German 4, 4, 4 Credits

Basic principles of grammar and syntax. Emphasis on oral practice in classroom and written homework assignments, supplemented by work in audio-lingual laboratory. Reading of graded literary texts. **4 Class Hours, 1 Laboratory Hour each**

Prerequisite: LA 119 Beginning German for LA 120
LA 120 Beginning German for LA 121

LA 130 English Composition 3 Credits

Introduction to the nature and history of language. Instruction and practice in the writing of short, expository compositions. The tools and techniques of the research paper. For Liberal Arts and Engineering Science students. **3 Class Hours**

LA 131 English Composition 3 Credits

Continued expository theme writing. Instruction and practice in argumentation, description and narration. Study of tone and other aspects of style through analysis of selected essays. For Liberal Arts and Engineering Science students. **3 Class Hours**

Prerequisite: LA 130 English Composition

LA 132 English Composition 3 Credits

Critical and evaluative writing based on the study of selected pieces of literature. For Liberal Arts and Engineering Science students. **3 Class Hours**

Prerequisite: LA 131 English Composition

LA 145 Development of Western Civilization 3 Credits

Development of man from the dawn of history, through the classical civilizations of Greece and Rome, to the Middle Ages. For Liberal Arts and Business Administration students. **3 Class Hours**

LA 146 Development of Western Civilization 3 Credits

The late Middle Ages (1300) through the beginning of modern times, the age of royal absolutism, the expansion of Europe, and the era of the French Revolution to 1830. For Liberal Arts and Business Administration students. **3 Class Hours**

LA 147 Development of Western Civilization 3 Credits

The Industrial Revolution, development of nationalism, the beginning of liberalism, the growth of industrialism, the two World Wars and present-day tensions. Social and cultural trends of the period. For Liberal Arts and Business Administration students. **3 Class Hours**

LA 193 Philosophy 3 Credits

Methodology, the principles of deductive and inductive logic, epistemology. For Liberal Arts students. **3 Class Hours**

LA 194 Philosophy 3 Credits

The various systems of thought, including idealism, rationalism, theism, empiricism, positivism, pragmatism, scepticism, existentialism. For Liberal Arts students.

3 Class Hours

LA 195 Philosophy 3 Credits

Ethics: moral values, rules of conduct and guides to action. Aesthetics: the science of beauty, the rules and principles of art. For Liberal Arts students.

3 Class Hours

LA 204 Intermediate Spanish 3 Credits

Intensive review and continuation of grammar and syntax. Aural comprehension and oral practice in classroom and audio-lingual laboratory.

3 Class Hours, 1 Laboratory Hour
Prerequisite: LA 103 Beginning Spanish

LA 205 Intermediate Spanish 3 Credits

Intensive and extensive reading of literary works of recognized authors. Classroom discussion based on the texts. Discussions and conversation in Spanish.

3 Class Hours
Prerequisite: LA 204 Intermediate Spanish

LA 206 Intermediate Spanish 3 Credits

Intensive and extensive reading of literary works of recognized authors. Classroom discussion and conversation based on these texts, in the language.

3 Class Hours
Prerequisite: LA 205 Intermediate Spanish

LA 210 Main Currents of Spanish Literature 3 Credits

Lectures on the historic background. Readings and discussions of masterpieces of Spanish literature from the **Cid** to the Golden Age. Voluntary use of audio-lingual laboratory to hear recordings of selected portions of Spanish literary works.

3 Class Hours
Prerequisite: LA 206 Intermediate Spanish

LA 211 Main Currents of Spanish Literature 3 Credits

Lectures on the historic background. Readings and discussions, and reports on representative works from the Golden Age to the present century. Voluntary use of audio-lingual laboratory.

3 Class Hours
Prerequisite: LA 210 Main Currents of Spanish Literature

LA 212 Main Currents of Spanish Literature 3 Credits

Continued lecturing by the instructor on the historic background. Reading, discussion and reports on representative works from the generation of 1898 to contemporary times. Voluntary use of the audio-lingual laboratory.

3 Class Hours
Prerequisite: LA 211 Main Currents of Spanish Literature

LA 213 Intermediate French 3 Credits

Reading and discussion of cultural texts. Continuation of grammar, syntax and oral practice in classroom and audio-lingual laboratory.

3 Class Hours, 1 Laboratory Hour
Prerequisite: LA 112 Beginning French

LA 214 Intermediate French 3 Credits

Intensive and extensive reading of literary works of recognized authors. Continuation of grammar, syntax and oral practices in classroom and audio-lingual laboratory.

3 Class Hours, 1 Laboratory Hour
Prerequisite: LA 213 Intermediate French

LA 215 Intermediate French 3 Credits

Emphasis on composition, with continuation of grammar, syntax and oral practices in the classroom and audio-lingual laboratory.

3 Class Hours, 1 Laboratory Hour
Prerequisite: LA 214 Intermediate French

LA 216 French Conversation and Composition 3 Credits

Practice in oral and written French. Special attention to French phonetics and the modern French idiom. Voluntary use of audio-lingual laboratory. **3 Class Hours**

Prerequisite: LA 215 Intermediate French

LA 217 Introduction to French Literature 3 Credits

Reading, lectures and reports on masterpieces of French literature with cultural and historical implications, from **La Chanson de Roland** through the 18th century.

3 Class Hours
Prerequisite: LA 216 French Conversation and Composition

LA 218 Introduction to French Literature 3 Credits

Further reading, lectures, reports on masterpieces of French literature with their implications from the 18th century to modern times. **3 Class Hours**

Prerequisite: LA 217 Introduction to French Literature

LA 222 Intermediate German 3 Credits

Emphasis on grammar with difficult problems of syntax and translation. Conversation with audio-visual classes and audio-lingual laboratory work.

3 Class Hours, 1 Laboratory Hour
Prerequisite: LA 121 Beginning German

LA 223 Intermediate German 3 Credits

Introduction to selections from standard authors from the earliest written texts to the 20th century. Essays and reports on readings in German. **3 Class Hours**

Prerequisite: LA 222 Intermediate German

LA 224 Intermediate German 3 Credits

Reading and discussion of original texts of standard authors in the 19th and 20th centuries with cultural and historical implications. Essays and reports on readings in German.

3 Class Hours
Prerequisite: LA 223 Intermediate German

LA 225 German Conversation and Composition 3 Credits

Readings in current German magazines and newspapers, oral and written reports and discussion in German. Special attention to the modern German idiom.

3 Class Hours, 1 Laboratory Hour
Prerequisite: LA 224 Intermediate German

LA 226 Introduction to German Literature 3 Credits

Readings and discussions of representative selections in German literature from the Old High German period to the 18th century. Lectures and reports.

3 Class Hours
Prerequisite: LA 225 German Conversation and Composition

LA 227 Introduction to German Literature 3 Credits

Further readings and discussions of representative selections in German literature with emphasis on great masters from the 18th century to modern times. Lectures and reports.

3 Class Hours
Prerequisite: LA 226 Introduction to German Literature

LA 230 American Literature 3 Credits

History and development of American Literature from the colonial period to the Civil War. Emphasis on several major writers of the period. For Liberal Arts students.
3 Class Hours

LA 231 American Literature 3 Credits

History and development of American Literature from the Civil War to the early 20th Century. Emphasis on several major writers of the period. For Liberal Arts students.
3 Class Hours

LA 232 American Literature 3 Credits

History and development of American Literature during the 20th century. Emphasis on several major writers of the period. For Liberal Arts students.
3 Class Hours

LA 233 English Literature 3 Credits

The history and development of English literature from the Middle Ages to the 17th century. For Liberal Arts students.
3 Class Hours
Prerequisite: LA 132 English Composition

LA 234 English Literature 3 Credits

The history and development of English literature from the 17th century to the Victorian period. For Liberal Arts students.
3 Class Hours

LA 235 English Literature 3 Credits

The history and development of English literature from the Victorian period to the present. For Liberal Arts students.
3 Class Hours

LA 236 Literature of the Western World 3 Credits

First in a three-term sequence concerned with selected materials from that body of world literature that reflects and defines the values of man. Themes of the classical world.
3 Class Hours

LA 237 Literature of the Western World 3 Credits

Themes and counterthemes from medieval Christianity to the 19th century.
3 Class Hours

LA 238 Literature of the Western World 3 Credits

Themes of the 19th and 20th centuries.
3 Class Hours

LA 248 History of Latin America 3 Credits

Pre-Columbian Latin America, the Spanish and Portuguese conquests and the Colonial Period. For Liberal Arts students.
3 Class Hours

LA 249 History of Latin America 3 Credits

Latin America's wars of independence and the economic and cultural development of the nineteenth century. For Liberal Arts students.
3 Class Hours

LA 250 History of Latin America 3 Credits

The major Latin American nations in the 20th century in terms of political, economic and social institutions and problems. For Liberal Arts students.
3 Class Hours

LA 255 Economics 3 Credits

Introduction to the principles and problems of macro-economics, with primary emphasis on unemployment and inflation. Basic characteristics of the American economic system, national income determination, business cycles, fiscal policy, the public debt, money and banking and monetary policy. For Liberal Arts, Business, Executive Secretary and Engineering Science students. **3 Class Hours**

LA 256 Economics 3 Credits

Continuation of macro-economics, with primary emphasis on the causes and effects of economic growth. Introduction to the principles and problems of micro-economics. Price theory and resource allocation. Theory of the firm from competition to monopoly and connecting government policy. For Liberal Arts, Business, Executive Secretary and Engineering Science students. **3 Class Hours**

Prerequisite: LA 255 Economics

LA 257 Economics 3 Credits

Continuation of micro-economics. Income distribution and general equilibrium theory. Current economic problems, international economics, the underdeveloped countries and comparative economic systems. For Liberal Arts, Business, Executive Secretary and Engineering Science students. **3 Class Hours**

Prerequisite: LA 256 Economics

LA 260 Political Science 3 Credits

Individual liberties devolved from Anglo-Saxon tradition culminating in the American Bill of Rights as interpreted and protected by the U. S. Supreme Court. For Liberal Arts students. **3 Class Hours**

LA 261 Political Science 3 Credits

Individual and mass participation in government: suffrage and office holding as defined by the Constitution and as applied through practical politics. For Liberal Arts students. **3 Class Hours**

LA 262 Political Science 3 Credits

Political aspects of environmental problems produced by the Industrial Revolution and the rural-to-urban shift: Federalism and Metropolitanism. For Liberal Arts students. **3 Class Hours**

LA 277 Anthropology (Physical) 3 Credits

Introduction to human biology, examining genetics and ecology, the primate order, fossil evidence for man's evolution and variation in living populations.

3 Class Hours

LA 278 Anthropology (Cultural and Social) 3 Credits

Introduction to anthropological theory, analysis of social organization and institutions. Basic linguistics using non-Western societies as illustrations. **3 Class Hours**

Prerequisite: LA 277 Anthropology

LA 279 Anthropology (Comparative Social Systems) 3 Credits

A comparative study of various levels of social complexity, such as the band, tribe, chiefdom and state, with emphasis on cultural evolution and change using data from the archeological record and Western and non-Western societies.

3 Class Hours

Prerequisite: LA 278 Anthropology

LA 280 Sociology 3 Credits

Sociological facts and principles dealing with the scientific study of human relationships. Emphasis on analysis and study of culture and human society, socialization, groups and group structures. For Liberal Arts, Chemical Technology and degree Nursing students. **3 Class Hours**

LA 281 Sociology 3 Credits

Stratification, collective behavior patterns and the various social institutions including associations, the family and education. The application of sociological principles relating to the agents of social change. For Liberal Arts, Chemical Technology and degree Nursing students. **3 Class Hours**

Prerequisite: LA 280 Sociology

LA 282 Sociology 3 Credits

The structure of the aggregates of population, minority groupings, crime and delinquency, and major changes in technology, urbanism and political structures as they relate to man. For Liberal Arts, Chemical Technology and degree Nursing students. **3 Class Hours**

Prerequisite: LA 281 Sociology

LA 283, 284, 285 Social Science 3, 3, 3 Credits

This course is open to all students on a space-available basis. There are no prerequisites. In each term selected problems of our society will be considered, such as war and disarmament, environmental pollution, discrimination, crime, poverty, the welfare system, population growth, urban decay, unemployment, inflation and other current social, economic and political issues. There will be a different instructor each term and more than one instructor may be involved at any one time. **3 Class Hours**

LA 286 Psychology 3 Credits

Definition and history of psychology as a science, including systems, fields, methodology. Structure and function of the brain and nervous system, psychogenetics, development of the individual, motivation and emotion. For Liberal Arts and degree Nursing students. **3 Class Hours**

LA 287 Psychology 3 Credits

Sensation, perception, learning, memory, individual differences and their measurement. For Liberal Arts and degree Nursing students. **3 Class Hours**

Prerequisite: LA 286 Psychology

LA 288 Psychology 3 Credits

Ability testing and intelligence, theories of personality, conflict and adjustment, disordered behavior, therapies, mental health. For Liberal Arts and degree Nursing students. **3 Class Hours**

Prerequisite: LA 287 Psychology

LA 801 English 3 Credits

Introduction to the informal study of logic and language. Use of prose to stimulate critical thinking and verbal analysis with subsequent written reaction. Study of basic reading skills to prepare student for sophisticated reading. First in a three-term (one year) offering for students in Associate in Applied Science degree programs. **3 Class Hours**

LA 802 English 3 Credits

Development of analytical reading, critical thinking, effective written communication. Reading of related essays, stories and poems offering a study of universal themes dealing with man, his views of self and society. Second in a three-term (one year) offering for students in Associate in Applied Science degree programs. **3 Class Hours**

Prerequisite: LA 801 English

LA 803 English 3 Credits

Style, tone and diction, and their relationship to the writer's purpose. Intensive practice in the construction of effective sentences, paragraphs and short themes. Third in a three-term (one year) offering for students in Associate in Applied Science degree programs. **3 Class Hours**

Prerequisite: LA 802 English

LA 804 Effective Speaking 3 Credits

Speech communication, through voice, words and action. Voice production, diction, platform presence. Organization of ideas. Practice in presenting speeches of different types. **3 Class Hours**

LA 805 American Literature 3 Credits

Fiction by important American writers of the last 100 years. Emphasis on the novel and short story as art forms, presenting significant ideas about the individual and society. **3 Class Hours**

LA 810 Psychology 3 Credits

Principles of psychology as they relate to the problems of human behavior and adjustment. Emphasis on growth and development, motivation, emotions, learning, individual differences, behavior disorders, personality and mental hygiene. For students in most Associate in Applied Science degree programs. **3 Class Hours**

LA 820 Economics 3 Credits

Economic facts and principles and their application to the American society. Emphasis on macro-economics: production, consumption, fiscal policy, national income analysis, money and banking. Current economic problems encompassing large-scale enterprise, labor-management relations, international trade, and a comparison of capitalism with other economic systems. For students in most Associate in Applied Science degree programs. **3 Class Hours**

LA 830 Sociology 3 Credits

An issue-centered sociological approach to selected themes that relate to the major concerns confronting American society. The scientific revolution, social organization and survival, population trends, education, and the production and distribution of abundance. For students in most Associate in Applied Science degree programs. **3 Class Hours**

LA 840 Introduction to Philosophy 3 Credits

Basic problems of philosophy, such as **a priori** knowledge, the reality of the physical world, morality, the mind-body relationship, freedom, the supernatural. For Liberal Arts students. **3 Class Hours**

LA 858 Fine Arts: Introduction to Art 3 Credits

Basic art principles and concepts together with their historical development as shown in representative works of painting, sculpture and architecture. Gallery visits. For Liberal Arts students. **3 Class Hours**

LA 859 Fine Arts: Introduction to Theatre 3 Credits

Art of the theatre, for the purpose of increasing understanding and appreciation of drama. A cultural approach considering the interrelationship of all aspects of production including plays, acting, directing, costume, make-up and lighting. Attendance at local productions. For Liberal Arts students. **3 Class Hours**

LA 860 Fine Arts: Introduction to Music 3 Credits

Basic elements of music common to all forms of musical expression. Emphasis on developing listening habits, which bring the student to an informed awareness and understanding of music. Attendance at concerts and recitals. For Liberal Arts students. **3 Class Hours**

LA 861 17th and 18th Century Music 3 Credits

Music and musical styles of the 17th and 18th centuries. Emphasis upon the composers and their styles and the relationship of music to the social, political and other cultural reforms of the period. For Liberal Arts students. **3 Class Hours**

Prerequisite: LA 860 Fine Arts: Introduction to Music or consent of instructor

LA 862 19th Century Music 3 Credits

Important musicians and musical styles of the Romantic Period. Emphasis upon the developments in piano literature, the symphony orchestra and opera. Listening to selected recordings and attendance at local concerts form an integral part of the discussions. For Liberal Arts students. **3 Class Hours**

Prerequisite: LA 860 Fine Arts: Introduction to Music or consent of instructor

LA 863 20th Century Music 3 Credits

Important musicians and musical styles in the 20th century. Emphasis upon the trends and developments of music in America as well as a study of leading European composers. For Liberal Arts students. **3 Class Hours**

Prerequisite: LA 860 Fine Arts: Introduction to Music or consent of instructor

MATHEMATICS

MA 100 Mathematics 3 Credits

Fundamental operations of real numbers, evaluation of algebraic expressions, operations with polynomials, solutions of linear equations, inequalities, factoring, operations with radicals, the quadratic formula. For Business students. **3 Class Hours**

MA 101 Mathematics 3 Credits

Review solution of linear inequalities and quadratic equations in one variable, algebraic fractions and fractional equations, functions and graphing, inequalities in two variables, measurement and approximate data, negative and fractional exponents, scientific notation, logarithms, variation. For students in Business, Environmental Health, Medical Laboratory Technology, Medical Office Assistant, Medical Record and X-ray Technology. **3 Class Hours**

Prerequisite: MA 100 Mathematics

MA 105 Mathematics 3 Credits

Summarization of data, fundamentals of probability, probability distributions including the binomial distribution, normal distribution. For students in Environmental Health, Medical Laboratory Technology, Medical Office Assistant and Medical Record Technology. **3 Class Hours**

Prerequisite: MA 100 Mathematics

MA 113 Introduction to Finite Mathematics 3 Credits

Sets, linear programming, introduction to probability, vectors, matrices and Markov chains, introduction to game theory. For Liberal Arts students. **3 Class Hours**

MA 114 Introduction to Finite Mathematics 3 Credits

Game theory, logarithms and mathematical tables, compound interest and amortization, simulation, planning (PERT), forecasting. For Liberal Arts students.

3 Class Hours

Prerequisite: MA 113 Introduction to Finite Mathematics

MA 115 Introduction to Finite Mathematics 3 Credits

Summarizing data, rules of probability, chance variation, probability functions, normal distribution, sampling, analysis of data, statistical thinking and decision theory. For Liberal Arts students. **3 Class Hours**

Prerequisite: MA 114 Introduction to Finite Mathematics

MA 120 Finite Mathematics for Business 3 Credits

Logic and sets, conjunction, disjunction, negation, conditional, biconditional, tree diagrams. Counting procedures, permutation, combination. Equiprobability, probability spaces, applications to sampling problems, mathematical expectations, conditional probability. For Business Administration students. **3 Class Hours**

Prerequisite: MA 101 Mathematics

MA 121 Finite Mathematics for Business 3 Credits

Descriptive statistics, organization and presentation of data, measures of central tendency, variance, standard deviation, standard scores. Statistical inference, estimation, test of hypotheses, confidence interval, normal distribution. Systems of linear equations, algebraic and geometric solutions, matrices. Systems of linear inequalities, linear programming. For Business Administration students. **3 Class Hours**

Prerequisite: MA 120 Finite Mathematics for Business

MA 122 Introduction to Calculus for Business 3 Credits

Differential calculus: real numbers, relations and functions, sequences and series, the derivative, techniques of differentiation, applications, functions of several variables, maxima and minima. For Business Administration students. **3 Class Hours**

Prerequisite: MA 121 Finite Mathematics for Business

MA 133 Modern Basic Mathematics 3 Credits

Counting, one-to-one correspondence, base systems, changing bases. Mathematical systems, relations, equivalence relations, operations, logic and proof. Sets, subsets, union and intersection. Venn diagrams, Cartesian product and introduction to probability. For Liberal Arts students. **3 Class Hours**

MA 134 Modern Basic Mathematics 3 Credits

Introduction to statistics, natural numbers, number theory, primes, factors, least common multiple, greatest common factor, mathematical induction. Whole numbers, cardinal numbers, order, number lines, addition and multiplication algorithms. Integers, modular systems, abstract development of integers. For Liberal Arts students. **3 Class Hours**

Prerequisite: MA 133 Modern Basic Mathematics

MA 135 Modern Basic Mathematics 3 Credits

Rational numbers, absolute value, density, decimal representation. Real numbers, square roots, complex numbers. Solution of equations in a number field. An abstract mathematical system. For Liberal Arts students. **3 Class Hours**

Prerequisite: MA 134 Modern Basic Mathematics

MA 140 College Algebra and Trigonometry 4 Credits

Topics in algebra and trigonometry necessary in technical courses. System of real numbers. Functions in general. Graphs of functions. Exponential, logarithmic and trigonometric functions. Complex numbers, theory of equations. Systems of equations. For students in engineering technologies. **4 Class Hours**

MA 141 Calculus 3 Credits

The derivative, curve sketching, maxima and minima, direction fields, velocity and acceleration, circular functions, the exponential function, integration, applications of integration. **3 Class Hours**

Prerequisite: MA 140 College Algebra and Trigonometry

MA 142 Calculus 3 Credits

Numerical integration, space geometry, volume, partial derivatives, approximate methods. Techniques of differentiation, applications of derivatives, inverse functions, logarithms. **3 Class Hours**

Prerequisite: MA 141 Calculus

MA 150 Principles of Mathematics 4 Credits

Logic and sets, number fields, rational, real and complex. Integers, mathematical induction, integral domains, rings. Vectors, matrices, determinants, vector spaces, linear transformations. For Liberal Arts students. **4 Class Hours**

MA 151 Principles of Mathematics 4 Credits

Groups, transformation group, isomorphism. Linear equations and inequalities in one and two variables. Simultaneous linear equations and inequalities in two and three variables, matrix solutions of simultaneous equations. Quadratic equations and inequalities in one and two variables, polynomial equations, roots of polynomial equations, equations containing radicals. Functions, relations, inverse functions, algebraic functions, exponential and logarithmic functions. For Liberal Arts students.

4 Class Hours

Prerequisite: MA 150 Principles of Mathematics

MA 152 Principles of Mathematics 4 Credits

Trigonometric functions of real numbers, graphs, amplitude, period, phase, identities, inverse trigonometric functions, trigonometric functions of angles, complex numbers. Probability, counting procedures, permutations, combinations, distribution, testing hypotheses, expectation. Boolean algebra, algebra of sets. For Liberal Arts students.

4 Class Hours

Prerequisite: MA 151 Principles of Mathematics

MA 160 Calculus with Analytic Geometry 4 Credits

Inequalities, rectangular coordinate system and an introduction to analytic geometry of lines and conic sections. Functions, limits, continuity. The derivative, differentiation of algebraic functions, inverse functions, applications of the derivative including theory of extremes, differentials. For Liberal Arts students. **4 Class Hours**

Prerequisite: MA 152 Principles of Mathematics or consent of instructor

MA 161 Calculus with Analytic Geometry 4 Credits

Indefinite and definite integrals, fundamental theorem of calculus, applications of integration including area, volume, work, length of plane curve. Analytic geometry including translation and rotation of axes, asymptotes, symmetry, angle between curves. Differentiation and integration of trigonometric, logarithmic and exponential functions. For Liberal Arts students. **4 Class Hours**

Prerequisite: MA 160 Calculus with Analytic Geometry

MA 162 Calculus with Analytic Geometry 4 Credits

Methods of integration including substitutions, partial fractions and integration by parts. Vectors in the plane including parametric equations, differentiation, curvature and arc lengths. Indeterminate forms, L'Hospital's Rule, improper integrals. Polar coordinates including graphs, differentiation and area. For Liberal Arts students.

4 Class Hours

Prerequisite: MA 161 Calculus with Analytic Geometry

MA 170 Calculus with Analytic Geometry 4 Credits

Equations of a straight line, rates of change, limits, derivatives of algebraic functions, applications, integrations. For Engineering Science students.

4 Class Hours

MA 171 Calculus with Analytic Geometry 4 Credits

Applications of the definite integral, areas, volumes, moments, transcendental functions, logarithms, exponential functions, hyperbolic functions, methods of integrations, plane analytic geometry. For Engineering Science students.

4 Class Hours
Prerequisite: MA 170 Calculus with Analytic Geometry

MA 172 Calculus with Analytic Geometry 4 Credits

Polar coordinates, vectors and parametric equations, linear algebra, vectors in n-space, vector functions and their derivatives, partial differentiation. For Engineering Science students.

4 Class Hours
Prerequisite: MA 171 Calculus with Analytic Geometry

MA 240 Calculus 3 Credits

Trigonometric functions, techniques of integration, interpolation and numerical integration, first order differential equations.

3 Class Hours
Prerequisite: MA 142 Calculus

MA 241 Calculus 3 Credits

Second order linear differential equations, vectors, applications of vectors, functions of several variables, double integrals.

3 Credit Hours
Prerequisite: MA 240 Calculus

MA 242 Calculus 3 Credits

Taylor approximations, power series, improper integrals, higher partial derivatives, vector operations, multiple integrals.

3 Class Hours
Prerequisite: MA 241 Calculus

MA 263 Calculus with Analytic Geometry 4 Credits

Sequence series, convergence tests, power series, Taylor's theorem. Analytic geometry and vectors in three-dimensional space including equations of lines, scalar products, vector products, equations of planes, differentiation, space curves, surfaces, cylindrical and spherical coordinates. Applications of integration including centroid and moment of inertia of plane region. For Liberal Arts students.

4 Class Hours
Prerequisite: MA 162 Calculus with Analytic Geometry

MA 264 Calculus with Analytic Geometry 4 Credits

Functions of several variables, limits, continuity, partial derivatives, tangents and normals, directional derivative, gradient, maxima and minima. Multiple integrals and applications including polar coordinates, cylindrical and spherical coordinates. Introduction to differential equations including separation of variables, homogenous and exact equations, linear equations, series solutions and applications. For Liberal Arts Students.

4 Class Hours
Prerequisite: MA 263 Calculus with Analytic Geometry

MA 265 Linear Algebra 4 Credits

Fields, vector spaces, independence, bases, dimension, linear equations and matrices, the algebra of linear transformations and matrices, determinants. For Liberal Arts students.

4 Class Hours
Prerequisite: MA 264 Calculus with Analytic Geometry

MA 270 Calculus with Analytic Geometry 4 Credits

Multiple integrals, vector analysis, infinite series, complex numbers and functions. For Engineering Science students. **4 Class Hours**

Prerequisite: MA 172 Calculus with Analytic Geometry

MA 271 Differential Equations 3 Credits

First order differential equations, separable equations, exact equations, integrating factors, second order linear equations, homogeneous and non-homogeneous problems, series solutions. For Engineering Science students. **3 Class Hours**

Prerequisite: MA 270 Calculus with Analytic Geometry

MA 272 Differential Equations 3 Credits

Higher order linear equations, Laplace Transform, systems of first order equations, numerical methods, linear second order boundary value problems, Fourier series, linear second order partial differential equations. For Engineering Science students.

3 Class Hours

Prerequisite: MA 271 Differential Equations

MEDICAL RECORD TECHNOLOGY

MR 102 Medical Terminology 3 Credits

Medical terminology as correlated with anatomical systems. Suffixes, prefixes and use of medical dictionaries. Introduction to filing and preserving records for Medical Office Assistant students. Course also taken by Medical Record Technology students. **2 Class Hours, 2 Laboratory Hours**

MR 103 Terms and Transcription 4 Credits

Continuation of MR 102 Medical Terminology. Typing of medical reports and correspondence, use of dictionaries and reference books. For Medical Office Assistant and Medical Record Technology students.

Must be taken concurrently with BI 138 Anatomy and Physiology

2 Class Hours, 4 Laboratory Hours

Prerequisite: MR 102 Medical Terminology

MR 105 Medical Record Science 4 Credits

Orientation to various methods of filing and record storage. Analysis of medical records. Preparation of various administrative and medical statistical reports. Admission and registration of patients. **3 Class Hours, 3 Laboratory Hours**

Prerequisites: MR 102 Medical Terminology and MA 105 Mathematics

MR 224 Medical Record Science 4 Credits

Coding and indexing by various nomenclatures and classification systems. Legal aspects of medical record keeping. **3 Class Hours, 3 Laboratory Hours**

Prerequisite: MR 105 Medical Record Science

MR 225 Medical Record Science 4 Credits

Methods of efficient medical information, storage and retrieval. Inter- and intra-departmental relations and duties. Accreditation agencies. Knowledge of the medical library. Medical records in extended care facilities.

3 Class Hours, 3 Laboratory Hours

Prerequisite: MR 224 Medical Record Science

MR 237 Trends in Medical Record Science 2 Credits

Preparation and discussion of reports from current literature and medical journals. Discussion of the organization, layout and management of a medical record department. New trends in medical record science. **2 Class Hours**

Prerequisite: MR 225 Medical Record Science

MR 244, 245, 246 Medical Record Hospital 4, 4, 4 Credits

Directed practical experience in the hospital and related affiliation sites. Correlated with lecture and laboratory classes to develop insight and skills into medical record procedures. **16 Laboratory Hours each**

Prerequisite: MR 105 Medical Record Science

MECHANICAL TECHNOLOGY

MT 103 Engineering Drawing 2 Credits

Basic course that includes line and instrument exercises, lettering, orthographic projection, dimensioning and notes, auxiliary views, sections, threads and fasteners, assembly drawings and sketching. For Engineering Science students.

6 Laboratory Hours

MT 104 Engineering Drawing 1 Credit

A basic drawing course. Sketching, lettering, use of instruments, orthographic projection, auxiliary views, piping diagrams, flow charts and engineering graphs. For Chemical Technology students. **3 Laboratory Hours**

MT 110 Engineering Drawing 1 Credit

Basic course that includes lettering, line and instrument exercises, orthographic projection, dimensioning and notes, auxiliary views and sections. For Mechanical, Civil and Environmental Health Technology students. **3 Laboratory Hours**

MT 111 Engineering Drawing and Descriptive Geometry 2 Credits

Basic rules and practice for drawing threads, fasteners and assemblies including sketching techniques. Principles of descriptive geometry designed to determine true lengths, true size and relationships between lines and surfaces, to find intersections, to ascertain clearances, and to decide relationships affecting the design of parts in a machine or structure. **1 Class Hour, 3 Laboratory Hours**

Prerequisite: MT 110 Engineering Drawing

MT 112 Descriptive Geometry 2 Credits

Basic principles of descriptive geometry designed to determine true relationships between lines and surfaces, to find intersections, to locate elements or tangents, to ascertain clearances, or to decide relationships affecting the design of parts in a machine or structure. For Engineering Science students.

1 Class Hour, 2 Laboratory Hours

Prerequisite: MT 103 Engineering Drawing

MT 128 Survey of Engineering Laboratories 3 Credits

A general survey of engineering materials, physical tests and manufacturing processes encountered in mechanical technology laboratories. Lectures, demonstrations and participation in manufacturing processes, casting, welding and forging, metallurgy, precision measurements, quality control, thermodynamics, technical sketching and blueprint reading. For Engineering Secretarial students.

2 Class Hours, 3 Laboratory Hours

MT 130 Manufacturing Processes 3 Credits

Basic manufacturing materials and processes, such as melting and casting metal, powder metallurgy, plastics, elementary aspects of metal cutting machine tools. Practice and study of oxyacetylene, arc, resistance welding. For Mechanical and Civil Technology students. **2 Class Hours, 2 Laboratory Hours**

MT 131 Manufacturing Processes 2 Credits

Elements of machine tool operation involving the use of the lathe, miller, shaper, drill press and fundamental bench operations. Study of cutting speeds, feeds, coolants, threads, tapers and tool grinding. **1 Class Hour, 3 Laboratory Hours**

Prerequisites: MT 130 Manufacturing Processes and MA 140 College Algebra and Trigonometry and MT 110 Engineering Drawing

MT 132 Manufacturing Processes 2 Credits

Continuation of MT 131 Manufacturing Processes plus operation of the surface grinder and the cylindrical grinder, advanced lathe operations, jig boring, gear cutting, lapping, honing and scraping. Practice and study of turret lathe and automatic screw machine operations. **1 Class Hour, 3 Laboratory Hours**

Prerequisite: MT 131 Manufacturing Processes

MT 135 Materials and Processes 4 Credits

Advanced study of the properties and applications of engineering materials and the processes involved in their utilization, including electrical discharge machining, tape-controlled milling and drilling, ultrasonic machining.

3 Class Hours, 3 Laboratory Hours

Prerequisites: MT 130 Manufacturing Processes and MT 165 Metallurgy and MT 257 Strength of Materials

MT 155 Applied Mechanics (Statics) 3 Credits

Free body diagram, trusses, spatial force systems, friction, centroids, moments of inertia, shear and moment diagrams. For Mechanical and Civil Technology students. **3 Class Hours**

Prerequisites: MA 140 College Algebra and Trigonometry and PH 143 Physics

MT 156 Applied Mechanics (Dynamics) 3 Credits

Forces and force systems as they influence the motion of solid and fluid bodies. Kinematics, kinematics of rigid bodies, kinetics, work and energy, impulse-momentum, mechanical vibrations. **3 Class Hours**

Prerequisites: MA 141 Calculus and MT 155 Applied Mechanics

MT 165 Metallurgy 4 Credits

Fundamentals of the physical metallurgy of ferrous and non-ferrous alloys, investigation of the physical properties of metals, hardness tests, thermal analysis, grain structure examination. **3 Class Hours, 3 Laboratory Hours**

Prerequisites: PH 144 Physics and CH 104 Chemistry

MT 220 Mechanical Design 3 Credits

Machine motion and basic mechanisms. Machine motion includes rectilinear and curvilinear displacement, velocity, acceleration. Basic mechanisms include linkages, cams, gears.

2 Class Hours, 3 Laboratory Hours

Prerequisites: MT 111 Engineering Drawing and Descriptive Geometry and MT 156 Applied Mechanics and MT 257 Strength of Materials

MT 221 Mechanical Design 4 Credits

Principles of mechanical design covering the selection of materials, stress investigation, design of fundamental machine elements.

3 Class Hours, 3 Laboratory Hours

Prerequisites: MT 132 Manufacturing Processes and MT 220 Mechanical Design

MT 240 Precision Measurement 2 Credits

Theory and practice of precision measurement of the dimensional character of manufactured parts. Measurement of physical quantities such as time, mass, temperature, flow, pressure and speed which are utilized in the control of physical systems.

1 Class Hour, 3 Laboratory Hours

Prerequisites: MT 132 Manufacturing Processes and PH 145 Physics

MT 257 Strength of Materials 4 Credits

Stress and strain, elasticity, torsion, welded joints, riveted joints, beam stresses, centroids, moments of inertia, shear and moment diagrams. Laboratory work includes strain gauges, tests on wood, metals and plastics conducted in accordance with ASTM and AASHO standards. **3 Class Hours, 3 Laboratory Hours**

Prerequisites: MT 155 Applied Mechanics and MA 142 Calculus

MT 260 Thermodynamics 4 Credits

Laws of thermodynamics and application to changes of state of gases. Properties of gases and the equation of state, property and energy relationships in gas processes and in gas cycles for power and refrigeration, performance of thermal apparatus employing gas processes. Laboratory experiments on thermal processes and apparatus. **3 Class Hours, 3 Laboratory Hours**

Prerequisites: AD 120 Fundamentals of Computer Programming and MT 261 Fluid Mechanics

MT 261 Fluid Mechanics 3 Credits

Behavior of compressible and non-compressible fluids under static and dynamic conditions, including principles of hydrostatics, pressure measurements, flow, flow measurement, viscosity, hydrodynamic power and force. **3 Class Hours**

Prerequisites: PH 141 Physics and MA 142 Calculus and MT 156 Applied Mechanics

MT 262 Thermodynamics 4 Credits

Application of laws of thermodynamics to changes of state of vapors. Properties of vapors, property and energy relationships in vapor processes and in vapor cycles for power and refrigeration, performance of thermal apparatus employing vapors. Heat transfer. Laboratory experiments on fluid flow and thermal processes and apparatus. **3 Class Hours, 3 Laboratory Hours**

Prerequisite: MT 260 Thermodynamics

MT 267 Statistical Quality Control 4 Credits

Probability and statistics as they relate to sampling theory and the control of quality in the manufactured product. Standard deviation, areas under, and ordinates of the normal curve, the Poisson, control charts. Single, double and sequential sampling plans, machine capability, product reliability, statistical dimensioning.

3 Class Hours, 2 Laboratory Hours

Prerequisites: MT 240 Precision Measurement and MA 142 Calculus

MT 270 Engineering Materials 3 Credits

Atomic structure, metallic phases, ceramic materials and properties, multi-phase materials and equilibrium relationships, reactions within solid materials, corrosion, oxidation, composite materials. For Engineering Science students. **3 Class Hours**

Prerequisites: PH 172 Physics and CH 135 Chemistry

MT 271 Engineering Materials 3 Credits

Mechanical tests, elastic properties, microplasticity of materials, plastic deformation, fracture, strengthening mechanisms. Ceramics and inorganic non-metals, polymers. For Engineering Science students. **3 Class Hours**

Prerequisite: MT 270 Engineering Materials

PHYSICAL EDUCATION

PE 100 Physical Education 1 Credit

A sequence of courses to familiarize students with the need for and benefits of physical activity in modern living. A self-evaluation of one's physical condition and potential. Guidance in the selection of physical activities for leisure time use.

Instruction in a variety of carry-over sports, such as archery, badminton, bowling, golf, horseshoes, tennis, weight training. Participation and rudimentary instruction in such team sports as soccer, basketball, volleyball, softball and field hockey, as well as in tumbling, free exercise, dance. Instruction in physical conditioning and first aid.

NOTE: Students enrolled in Physical Education must wear a gym uniform for gym activities.

2 Class Hours

PHYSICS

PH 101 Physical Science 3 Credits

Basic concepts and skills necessary in scientific investigations. Force of gravity and its relationship to weight and motion. Role of gravity in geological processes. Development of major astronomical theories, role of gravity in explaining planetary motion. For Secretarial, Accounting and Marketing Management students.

2 Class Hours, 2 Laboratory Hours

PH 102 Physical Science 3 Credits

A brief review of scientific notation, metric system, graphs and proportions. Electrostatics, current magnetism, magnetic fields, interaction of current and magnetic fields. Types of waves, characteristics of a wave, properties of waves, sound, light, wave motion in natural processes. Measurement of temperature, heat and temperature, heat transfer and thermal expansion. Sources of heat energy in our universe, heat energy and weather, the role of heat energy in geological processes. For Secretarial students. **2 Class Hours, 2 Laboratory Hours**

PH 106 Physics 3 Credits

Linear motion, Newton's laws of motion, circular motion, gravitation, energy, momentum, hydrostatics, elasticity, simple harmonic motion, wave motion, sound. Temperature, heat, specific heat, change of state, properties of matter. For Environmental Health, Medical Laboratory and X-ray Technology students.

2 Class Hours, 2 Laboratory Hours

PH 107 Physics 3 Credits

Electrostatics, electric current, magnetic fields, electromagnetic induction. Electromagnetic waves, reflection and refraction, mirrors and lenses, diffraction and interference. Special relativity, quanta, the Bohr atom, the nucleus, radioactivity. For Environmental Health, Medical Laboratory and X-ray Technology students.

2 Class Hours, 2 Laboratory Hours

PH 110 Physics (Radiation) 3 Credits

Photon and charged-particle interactions with matter, radioactive processes, neutrons, activation analysis, theory and operation of radiation detecting instruments, basic criteria for radiation measurement, radiation hazards and protection. For Environmental Health, Medical Laboratory and X-ray Technology students.

2 Class Hours, 2 Laboratory Hours

Prerequisites: MA 101 Mathematics and PH 106 Physics

PH 113 Physical Science 4 Credits

The Ptolemaic System of the universe, basic astronomical observations, the Copernican and solar systems. Newton's laws of motion, gravitation, work and energy. Concepts of heat and temperature, gaseous state of matter, kinetic molecular theory of ideal gases. For Business Administration and Liberal Arts students.

3 Class Hours, 2 Laboratory Hours

PH 114 Physical Science 4 Credits

Basic laws and theories in chemistry, atoms and molecules, the periodic table. Electrostatics, current electricity and magnetism. Wave motion, theories of light, spectra, Faraday's laws, divisibility of the atom, Bohr theory, X-rays, atomic numbers, electronic configuration of the elements. For Business Administration and Liberal Arts students.

3 Class Hours, 2 Laboratory Hours
Prerequisite: PH 113 Physical Science

PH 115 Physical Science 4 Credits

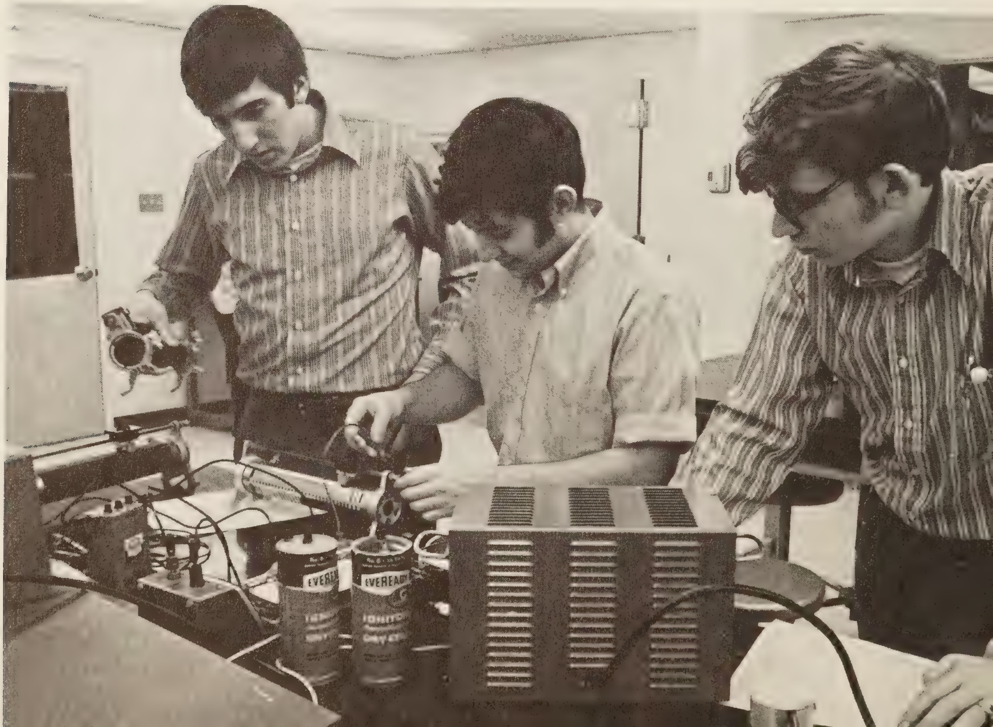
Electronic theory of bonding, oxidation and reduction, solutions, ionic theory, acid-base reactions, chemical energy, carbon chemistry. Rocks and minerals, natural energy transformations, weathering and erosion. Natural radioactivity, nuclear energy, fission and fusion, the universe beyond the solar system. For Business Administration and Liberal Arts students.

3 Class Hours, 2 Laboratory Hours
Prerequisite: PH 114 Physical Science

PH 116 Physical Science 4 Credits

Methods of measurement and the development of the wave model of light. Use of the wave model to study crystal structure, force and motion and acceleration due to gravity. PSNS approach (Physical Science for Non-Science majors in Liberal Arts.)

3 Class Hours, 2 Laboratory Hours



PH 117 Physical Science 4 Credits

Kinetic and potential energy and the principle of conservation of energy. Thermal energy and the kinetic-molecular model of gases. Electrical forces, binding forces in crystals and electrical current. Atomic structure and the shell model of the atom. PSNS approach (Physical Science for Non-Science majors in Liberal Arts.)

3 Class Hours, 2 Laboratory Hours
Prerequisite: PH 116 Physical Science

PH 118 Physical Science 4 Credits

Electrical properties of melts and solutions. Ions and ionic crystals. Sizes and mass of atoms and molecular bonding. Non-ionic material, carbon compounds, hydrogen bonding and the metallic model. PSNS approach (Physical Science for Non-Science majors in Liberal Arts).

3 Class Hours, 2 Laboratory Hours
Prerequisite: PH 117 Physical Science

PH 143 Physics (Mechanics) 4 Credits

Composition and resolution of vectors, equilibrium, concurrent and non-concurrent forces, friction, statics, elastic forces, kinematics. Motion: linear, projectile, curvilinear, rotational. For Engineering Technology students.

3 Class Hours, 2 Laboratory Hours

PH 144 Physics (Mechanics, Heat, Sound, Light) 5 Credits

Work, energy, power, impulse and momentum, oscillatory motion, thermometry, thermal expansion, thermodynamics, change of phase, heat transfer. Wave motion, intensity and quality of sound waves. Light, photometry, geometrical optics, reflection and refraction, nature of light. For Engineering Technology students.

4 Class Hours, 2 Laboratory Hours
Prerequisite: PH 143 Physics

PH 145 Physics (Electricity and Magnetism) 4 Credits

Coulomb's law, electric fields, potential energy and potential, DC and AC circuits, electrolysis, magnetism, electromagnetic theory and applications. For Engineering Technology students.

3 Class Hours, 2 Laboratory Hours
Prerequisite: PH 143 Physics

PH 160 Physics 4 Credits

Forces, time, motion, kinematics with vectors, matter and energy. Vibrations, wave superposition, standing waves, wave propagation, geometric and physical optics. For Liberal Arts students.

3 Class Hours, 2 Laboratory Hours

PH 161 Physics 4 Credits

Dynamics, energy transfer and conservation, kinetic theory of gases, momentum, universal gravitation. Electrostatic, Ohm's law, electric and magnetic fields, electromagnetic induction, oscillating circuits, Maxwell's equations. For Liberal Arts students.

3 Class Hours, 2 Laboratory Hours
Prerequisite: PH 160 Physics

PH 162 Physics 4 Credits

Relativity, detection of atomic particles and atoms, photons, matter waves. The Bohr atom, quantum mechanics, the atomic nucleus, radioactivity, nuclear conservation laws. For Liberal Arts students.

3 Class Hours, 2 Laboratory Hours
Prerequisite: PH 161 Physics

PH 170 Physics (Mechanics) 4 Credits

Statics and dynamics: vectors, particle kinematics, motion in a plane, particle dynamics, Newton's Laws of Motion, friction, centripetal forces. Work energy, impulse and momentum, principles of conservation of energy and momentum, collision phenomena, rotational kinematics, torque, rotational dynamics of rigid body. For Engineering Science students.

Concurrent enrollment in MA 170 Calculus with Analytic Geometry required.

3 Class Hours, 3 Laboratory Hours

PH 171 Physics (Mechanics and Heat) 4 Credits

Oscillations, gravitation, fluid statics and dynamics, waves in elastic media. Temperature, calorimetry, heat transfer, fusion, vaporization, elementary thermodynamics and kinetic theory. For Engineering Science students.

3 Class Hours, 3 Laboratory Hours
Prerequisites: PH 170 Physics and
MA 170 Calculus with Analytic Geometry

PH 172 Physics (Electricity and Magnetism) 4 Credits

Fundamental laws of electric and magnetic fields with application to elementary circuit problems. Electrostatic fields, induced emfs, inductance, capacitance, dielectrics, steady currents, simple transients. Laboratory work consists of electrostatic, electromagnetic and circuit measurements. For Engineering Science students.

3 Class Hours, 3 Laboratory Hours
Prerequisites: PH 171 Physics and
MA 171 Calculus with Analytic Geometry

PH 192 Statics 4 Credits

Concepts of forces, moments and couples in static force systems through a vector approach. For Engineering Science students.

4 Class Hours
Prerequisites: PH 171 Physics and
MA 172 Calculus with Analytic Geometry

PH 210 Electrical Circuits 4 Credits

Basic electrical terminology and circuit components: fundamental circuit laws, Kirchhoff's Laws. Resistive networks: source representation and conversion, loop and nodal analysis, superposition, Thevenin's Theorem. Network responses: natural and forced responses, initial conditions, complete response. Exponential excitation and the S-plane: Kirchhoff's Laws with exponential excitation. Driving point impedance and admittance, poles and zero, S-plane diagrams. Periodic excitation functions: RMS or effective currents and voltages, algebra of complex numbers, the phasor method. Steady state AC circuits: loop and node methods, Thevenin's Theorem, power and reactive power, maximum power transfer, three phase voltages, currents and power, wye and delta connected circuits, analysis of balanced three phase circuits. Digital and analog computer solution of circuit problems. For Engineering Science students.

3 Class Hours, 3 Laboratory Hours
Prerequisites: PH 172 Physics and
MA 270 Calculus with Analytic Geometry

PH 211 Electrical Circuits 4 Credits

Exponential Fourier Series and the Fourier Integral: Fourier transform pair. Frequency response: response to non-sinusoidal periodic functions, resonance phenomena, real and complex frequency, graphical display of frequency response characteristics, four terminal networks. The Laplace Transformation: Laplace Transform pair, tables of transform pairs, circuit solutions, partial fractions, initial value theorem, inverse transformation. Magnetic circuits and transformers. Nature of electronics: electronic devices, electronic structure of matter, semiconductors, the p-n junction, circuit characteristics of diodes, physical characteristics of junction transistors, static characteristics of transistors, biasing and graphical analysis, transistor circuit models, single stage electronic circuits. For Engineering Science students.

3 Class Hours, 3 Laboratory Hours
Prerequisites: PH 210 Electrical Circuits and
MA 270 Calculus with Analytic Geometry

PH 270 Physics (Light and Sound) 4 Credits

Wave motion as applied to sound acoustical phenomena. Geometrical optics, optical parts, optical instrumentation. Physical optics, nature of light, interferometry, polarization of light. For Engineering Science students.

3 Class Hours, 3 Laboratory Hours
Prerequisites: PH 172 Physics and
MA 172 Calculus with Analytic Geometry

PH 271 Physics (Atomic) 4 Credits

Special theory of relativity, quantum description of waves and particles, atomic structure, Schroedinger's equation, quantum theory of atoms, Zeeman effect, electron spin, Pauli's exclusion principle, the periodic table, atomic spectra. For Engineering Science students.

3 Class Hours, 3 Laboratory Hours
Prerequisites: PH 172 Physics and
MA 270 Calculus with Analytic Geometry

PH 272 Physics (Nuclear) 4 Credits

Nucleons and nuclear force, binding energy and stability of nuclei, nuclear models, radioactive growth and decay laws, natural radioactivity, decay modes. Nuclear accelerators, low-energy nuclear reactions, fission and fusion, elementary particles, molecular and solid state physics. For Engineering Science students.

3 Class Hours, 3 Laboratory Hours
Prerequisite: PH 271 Physics

PH 280 Astronomy 4 Credits

Fundamentals of astronomy including the earth's motion, earth satellite, the planets and the solar system, stellar structure and the sidereal universe. The laboratory stresses practical aspects of astronomy, the use of the telescope and observing techniques. For Engineering Science students. Liberal Arts students may take this course with no laboratory for 3 credits.

3 Class Hours, 3 Laboratory Hours
Prerequisite: MA 142 Calculus

PH 290 Dynamics 4 Credits

Introduction to vector calculus, vectors in curvilinear coordinate systems. Particle motion, particle dynamics, harmonic forces, force fields, the two body problem. Relative motion, dynamics of plane systems, impulse-momentum theorems and energy theorems for the rigid body. For Engineering Science students. **4 Class Hours**
Prerequisite: PH 192 Statics

NURSING

RN 121 Nursing (Meeting Basic Human Needs) 6 Credits

Techniques in meeting basic human needs. Nursing, observation and communication skills. Care, safety and comfort of hospitalized persons. Applications directed toward maintenance of a therapeutic environment considering individual needs. Related clinical experiences and field trips. **4 Class Hours, 6 Laboratory Hours**

RN 123 Nursing (Beginning of Life Cycle) 6 Credits

Principles of normal growth and development from conception to early adulthood, including the maternal cycle. Related clinical experiences and field trips to assist the student in understanding the life cycle in normalcy and stress.

4 Class Hours, 6 Laboratory Hours
Prerequisite: RN 121 Nursing

RN 124 Nursing (Continuation of Life Cycle) 6 Credits

Meeting normal needs of families from early adulthood through middle age, continuing through the later maturing years. Emphasis on normal development and adaptation to stress. Field trips to community agencies and clinical experiences.

4 Class Hours, 6 Laboratory Hours
Prerequisite: RN 123 Nursing

RN 224 Nursing 10 Credits
(Assessment of Problems Resulting From Stress)

Assessing nursing care needs of individuals experiencing physiological and/or psychological stress. Problems of acute and chronic illness. Methods of maintaining a therapeutic environment. Appropriate clinical experiences and field trips.

6 Class Hours, 12 Laboratory Hours
Prerequisite: RN 124 Nursing
BI 138 Anatomy and Physiology

RN 225 Nursing 10 Credits
(Assessment of Problems Resulting From Stress)

Continuation of RN 224 Nursing (Assessment of Problems Resulting from Stress). Care of persons with more complex physiological and/or psychological stress problems. Emphasis on persons faced with multiple stress situations. Utilization of community facilities in assisting individuals to cope with problems of stress. Appropriate clinical experiences and field trips. **6 Class Hours, 12 Laboratory Hours**
Prerequisite: RN 124 Nursing

RN 226 Nursing 10 Credits
(Assessment of Problems Resulting From Stress)

Nursing care for individuals with complex physiological and/or psychological stress. Methods of establishing and maintaining a therapeutic environment. Long range plans to return individuals to the community through rehabilitation and use of available facilities. Appropriate clinical experiences and field trips.

6 Class Hours, 12 Laboratory Hours
Prerequisite: RN 225 Nursing

RN 235 Trends in Nursing 1 Credit

An integrated survey of the historical development, cultural heritage and social foundations in nursing. Study of professional organizations and responsibilities of the professional nurse. A discussion of modern day issues and problems facing nursing education and nursing service and the force of society affecting them.

2 Laboratory Hours
Prerequisite: RN 224 Nursing or permission of instructor

RN 236 Trends in Nursing 1 Credit

A problem-solving approach to the nurse's responsibilities in meeting the needs of her profession as a member of a health team in a changing society. Discussion of community responsibilities of professional people. **2 Laboratory Hours**
Prerequisite: RN 235 Trends in Nursing

X-RAY TECHNOLOGY

RADIOGRAPHIC TECHNIQUE

Experience in the radiology department of a cooperating hospital. Observation and practice in positioning the sick and injured patient, obtaining the exact radiograph requested by the physician and assisting in the treatment of disease. Film exposure time, film manipulation and the finished radiograph are critically studied. Throughout the two academic years and summer sessions certain approved radiographs must be completed. These by location include radiographs of: extremities, gastrointestinal tract, urinary tract (intravenous and retrograde) pyelograms, urethrograms, skull (sinuses, facial bones, mandible), spine, pelvis (hips, hipnailing), shoulder, thoracic cage and cavity (lungs and heart, sternum).

XR 141, 142, 143 Hospital Radiographic Technique 4, 4, 4 Credits

Practice in positioning, radiographic exposure and film critique in the radiology department of a cooperating hospital.

These three courses must be taken concurrently with XR 171, 172, 173 Radiography, respectively.
16 Laboratory Hours each

XR 144 Hospital Radiographic Technique

Summer practice in radiographic technique and film critique at cooperating hospital. A graduation requirement.

1 Hour Film Critique and 36 Hours in Hospital X-ray Area
Prerequisites: XR 143 Hospital Radiographic Technique and XR 173 Radiography

XR 151 Patient Care and Medical Terminology 1 Credit

Use of correct medical terminology for radiologic technologists. Patient care procedures routinely used in departments of radiology.

2 Laboratory Hours

XR 152 Medical Ethics and Radiation Protection 1 Credit

Fundamental concepts in medical ethics and basic principles of protection of the patient and the technologist from ionizing radiation.

1 Class Hour

XR 171 Radiography 4 Credits

Introduction to principles of radiographic exposure techniques, patient positioning in radiography, film handling and processing.

Must be taken concurrently with XR 141 Hospital Radiographic Technique
3 Class Hours, 2 Laboratory Hours

XR 172 Radiography 4 Credits

Study of routine radiographic positioning in reference to position of patient and proper adjustment of X-ray equipment and film.

Must be taken concurrently with XR 142 Hospital Radiographic Technique
3 Class Hours, 3 Laboratory Hours
Prerequisite: XR 171 Radiography

XR 173 Radiography 4 Credits

Principles of the development and effective use of radiographic exposure techniques in producing a satisfactory X-ray examination.

Must be taken concurrently with XR 143 Hospital Radiographic Technique
3 Class Hours, 2 Laboratory Hours
Prerequisite: XR 172 Radiography

XR 244, 245, 246 Hospital Radiographic Technique 6, 6, 6 Credits

Advanced practice in radiographic technique and film critique.

XR 244, XR 245 and XR 246 must be taken concurrently with XR 274, XR 275 and XR 276 Radiography, respectively.

24 Laboratory Hours each
Prerequisites: XR 144 Hospital Radiographic Technique and XR 173 Radiography

XR 247 Hospital Radiographic Technique

Summer practice in advanced radiographic technique and film critique. A graduation requirement..

1 Hour Film Critique and 36 Hours in Hospital X-Ray Area
Prerequisite: XR 246 Hospital Radiographic Technique

XR 251 Pediatric and Skull Radiography 3 Credits

Special techniques and problems encountered in radiographing children and infants. Advanced positions involving the skull, facial bones, sinuses and mastoids.

2 Class Hours, 2 Laboratory Hours
Prerequisite: XR 172 Radiography

XR 252 Departmental Administration and Quality Control 2 Credits

Fundamentals of departmental management techniques and the development and utilization of principles of quality control in producing radiographs.

2 Class Hours

XR 253 Trends in Radiologic Technology 2 Credits

Development and presentation of both written and oral technical reports. Introduction to the use of audio-visuals and their relation to learning in X-ray technology.

2 Class Hours
Prerequisites: XR 252 Departmental Administration and Quality Control and XR 275 Radiography

XR 254 Radiotherapy 2 Credits

Effects of radiation on normal and malignant tissue, various modalities of radiation therapy and patient care and protection.

2 Class Hours
Prerequisite: PH 110 Physics

XR 274 Radiography 3 Credits

Advanced radiographic exposure techniques including the development and use of technique and tube rating charts. Routine maintenance of X-ray equipment and the relationship between proper operation of X-ray machines and satisfactory radiographs.

Must be taken concurrently with XR 244 Hospital Radiographic Technique
2 Class Hours, 2 Laboratory Hours
Prerequisite: XR 173 Radiography

XR 275 Radiography 3 Credits

Basic concepts of techniques and instrumentation of specialized radiographic procedures including arteriography, rapid film changers and tomography.

2 Class Hours, 2 Laboratory Hours
Prerequisites: XR 274 Radiography and XR 251 Pediatric and Skull Radiography

XR 276 Radiography 4 Credits

Fundamentals of radioisotope methodology and basic techniques of radiation monitoring and safety standards.

3 Class Hours, 2 Laboratory Hours
Prerequisites: XR 254 Radiotherapy for Technologists and XR 275 Radiography

COLLEGIATE STUDIES CERTIFICATE COURSES

CS 101 Physical Science 6 Credits

Introductory course of a three-term sequence. The concepts of dynamics and statics. Motion, forces, impulse and momentum, work and energy.

6 Class Hours

CS 102 Physical Science 6 Credits

Heat and the extension of the principle of conservation of energy, covering approximately one-half term. Then the course is divided into a three-hour course on theories of fields in electricity and magnetism, and a three-hour course on the structure of matter and an introduction to chemistry.

6 Class Hours
Prerequisite: CS 101 Physical Science

CS 103 Physical Science 3 Credits

Further elaborations of fields and their applications, introductory quantum physics of light and matter, atomic structure and the nucleus.

3 Class Hours

Prerequisite: CS 102 Physical Science

CS 104 Survey of Science 4 Credits

The generalization of basic chemical-physical concepts and their application to man's environment.

3 Class Hours

Prerequisite: CS 142 Preparatory Chemistry

CS 108 Basic Algebra 4 Credits

Basic operations with real numbers and algebraic expressions. Solutions of linear systems and quadratic equations. Introductory graphical representation.

4 Class Hours

CS 109 Basic Algebra 3 Credits

Radicals and their application, logarithms, simple exponential equations and introductory analytic geometry.

3 Class Hours

Prerequisite: CS 108 Basic Algebra

CS 110, 111, 112 Elements of Technical Mathematics 5, 5, 5 Credits

A three-term sequence of integrated mathematics involving a mature treatment of the topics of algebra, trigonometry and some analytic geometry. Special attention to technical computations using the slide rule, logarithms, science notation and dimensional analysis.

5 Class Hours each

CS 120 Technical Calculations 2 Credits

Technical problem solving, applying principles and concepts of the students' concurrent courses in mathematics and CS 101 Physical Science.

4 Laboratory Hours

CS 121 Technical Calculations 2 Credits

Concurrent with CS 102 Physical Science. Problems involving heat and energy. At approximately mid-term the course is divided into two two-hour sessions emphasizing problems in chemistry and electricity, respectively.

4 Laboratory Hours

Prerequisite: CS 120 Technical Calculations

CS 122 Technical Calculations 1 Credit

Concurrent with CS 103 Physical Science. Problems involving theories of fields, elementary quantum theory, theories of atomic structure and the nucleus.

2 Laboratory Hours

Prerequisite: CS 121 Technical Calculations

CS 130 Engineering Drawing 1 Credit

Fundamentals of Engineering Drawing: simple multiview drawing and sketching, with stress on accuracy and neatness in lettering and linework.

3 Laboratory Hours

CS 131 Engineering Drawing 1 Credit

Orthographic projection, auxiliary views, sectional views, pictorial drawing, free hand drafting with continued emphasis on accuracy and neatness.

3 Laboratory Hours

Prerequisite: CS 130 Engineering Drawing

CS 132 Engineering Drawing 1 Credit

Threads and fasteners, welding drawings, working drawings, assemblies, exploded views. Continued emphasis on accuracy and neatness.

3 Laboratory Hours
Prerequisite: CS 131 Engineering Drawing

CS 140 Chemistry 4 Credits

Rudiments of electrochemistry, thermochemistry, solutions, atomic structure and bonding, descriptive coverage of the more common elements and families.

3 Class Hours, 2 Laboratory Hours
Prerequisite: CS 102 Physical Science

CS 141, 142 Preparatory Chemistry 4, 4 Credits

A two-quarter sequence of preparatory chemistry intended to satisfy the entrance requirements for biological and health science oriented programs.

3 Class Hours, 2 Laboratory Hours each

CS 150 Communication Skills 3 Credits

To help the student improve his mastery of study and reading skills. Two sessions weekly devoted to reading skills and one to study skills. **3 Class Hours**

CS 151 Communication Skills 3 Credits

To improve the student's mastery of writing English. Concentration on grammar, sentence structure, spelling, punctuation and the recognition and correction of common errors in basic English elements. **3 Class Hours**

CS 152 Communication Skills 3 Credits

Students practice the skills learned in CS 151 Communication Skills and also apply that knowledge to analyze sample writings of recognized authors in technical and other types of communication. **3 Class Hours**

CS 153 Verbal Reasoning 3 Credits

The first in a three-term sequence designed to improve the student's ability in reasoning. Concentration on qualification, strustures and operations, abstractions, signs, symbols and ambiguity. **3 Class Hours**

CS 154 Verbal Reasoning 3 Credits

Concentration on analysis, classification, semantic growth, irony and generalization.

3 Class Hours
Prerequisite: CS 153 Verbal Reasoning

CS 155 Verbal Reasoning 3 Credits

Concentration on analogies, metaphors, definition, comparison, induction, deduction and problem-solving.

3 Class Hours
Prerequisite: CS 154 Verbal Reasoning

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Non-Academic

Audio-Visual Center

WYNETTE GREGG
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GARY FINCH
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B.S., M.A., Ph.D.

KENNETH T. DORAN—Associate University Dean for Two-Year Colleges
B.S., M.S., Ed.D.

Broome Community College is one of the 69 campuses that comprise the State University of New York (SUNY), which was established by the State Legislature in 1948. Its 69 units include 38 locally-sponsored two-year community colleges like Broome.

In addition, there are four university centers, two medical centers, 12 colleges of arts and sciences, two specialized colleges, five statutory colleges and six two-year agricultural and technical colleges.

Graduate programs are offered in 22 of the four-year colleges, with 12 of them having advanced graduate study leading to the doctoral degree.

Although the campuses of the State University are separated geographically, all are united in their purpose—to improve and extend opportunities for youth to continue their education after high school. The geographic separation, moreover, enables students to enjoy the advantages of attending relatively small colleges, even though State University is one of the largest state universities in the country.

Sate University is guided by its motto: "Let Each Become All He Is Capable of Being."

It is governed by a Board of Trustees, which is appointed by the Governor. Its function is to plan the total development of state-supported higher education. But each of its colleges is locally administered. Students, therefore, should write directly to the college in which they are interested for admission forms and information.

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State University of New York Campuses

UNIVERSITY CENTERS

State University at Albany
State University at Binghamton
State University at Buffalo
State University at Stony Brook

MEDICAL CENTERS

Downstate Medical Center at Brooklyn
Upstate Medical Center at Syracuse

COLLEGES OF ARTS AND SCIENCE

College at Brockport
College at Buffalo
College at Cortland
College at Fredonia
College at Geneseo
College at Old Westbury
College at New Paltz
College at Oneonta
College at Oswego
College at Plattsburgh
College at Potsdam
College at Purchase

SPECIALIZED COLLEGES

College of Forestry at Syracuse University
Maritime College at Fort Schuyler (Bronx)

STATUTORY COLLEGES

College of Ceramics at Alfred University
College of Agriculture at Cornell University
College of Human Ecology at Cornell University
School of Industrial and Labor Relations at Cornell University
Veterinary College at Cornell University

AGRICULTURAL AND TECHNICAL COLLEGES (two-year) at:

Alfred
Canton
Cobleskill
Delhi
Farmingdale
Morrisville

COMMUNITY COLLEGES (Locally sponsored two-year colleges under State University)

- Adirondack Community College
  - Glens Falls
- Auburn Community College
  - Auburn
- Borough of Manhattan Community College
  - New York City (Manhattan)
- Bronx Community College
  - New York City (Bronx)
- Broome Community College
  - Binghamton
- Clinton Community College
  - Plattsburgh
- Columbia-Greene Community College
  - Athens
- Community College of the Finger Lakes
  - Canandaigua
- Corning Community College
  - Corning
- Dutchess Community College
  - Poughkeepsie
- Erie Community College
  - Buffalo
- Fashion Institute of Technology
  - New York City (Manhattan)
- Fulton-Montgomery Community College
  - Johnstown
- Genesee Community College
  - Batavia
- Herkimer County Community College
  - Ilion
- Hostos Community College
  - New York City (South Bronx)
- Hudson Valley Community College
  - Troy
- Jamestown Community College
  - Jamestown
- Jefferson Community College
  - Watertown
- Kingsborough Community College
  - New York City (Brooklyn)

(Continued on next page)

State University of New York Campuses (cont'd)

LaGuardia Community College
New York City (Long Island City)

Mohawk Valley Community College
Utica

Monroe Community College
Rochester

Nassau Community College
Garden City

New York City Community College
New York City (Brooklyn)

Niagara County Community College
Niagara Falls

North Country Community College
Saranac Lake

Onondaga Community College
Syracuse

Orange County Community College
Middletown

Queensborough Community College
New York City (Queens)

Rockland Community College
Suffern

Schenectady County Community College
Schenectady

Staten Island Community College
New York City (Staten Island)

Suffolk County Community College
Selden

Sullivan County Community College
South Fallsburg

Tompkins-Cortland Community College
Groton

Ulster County Community College
Stone Ridge

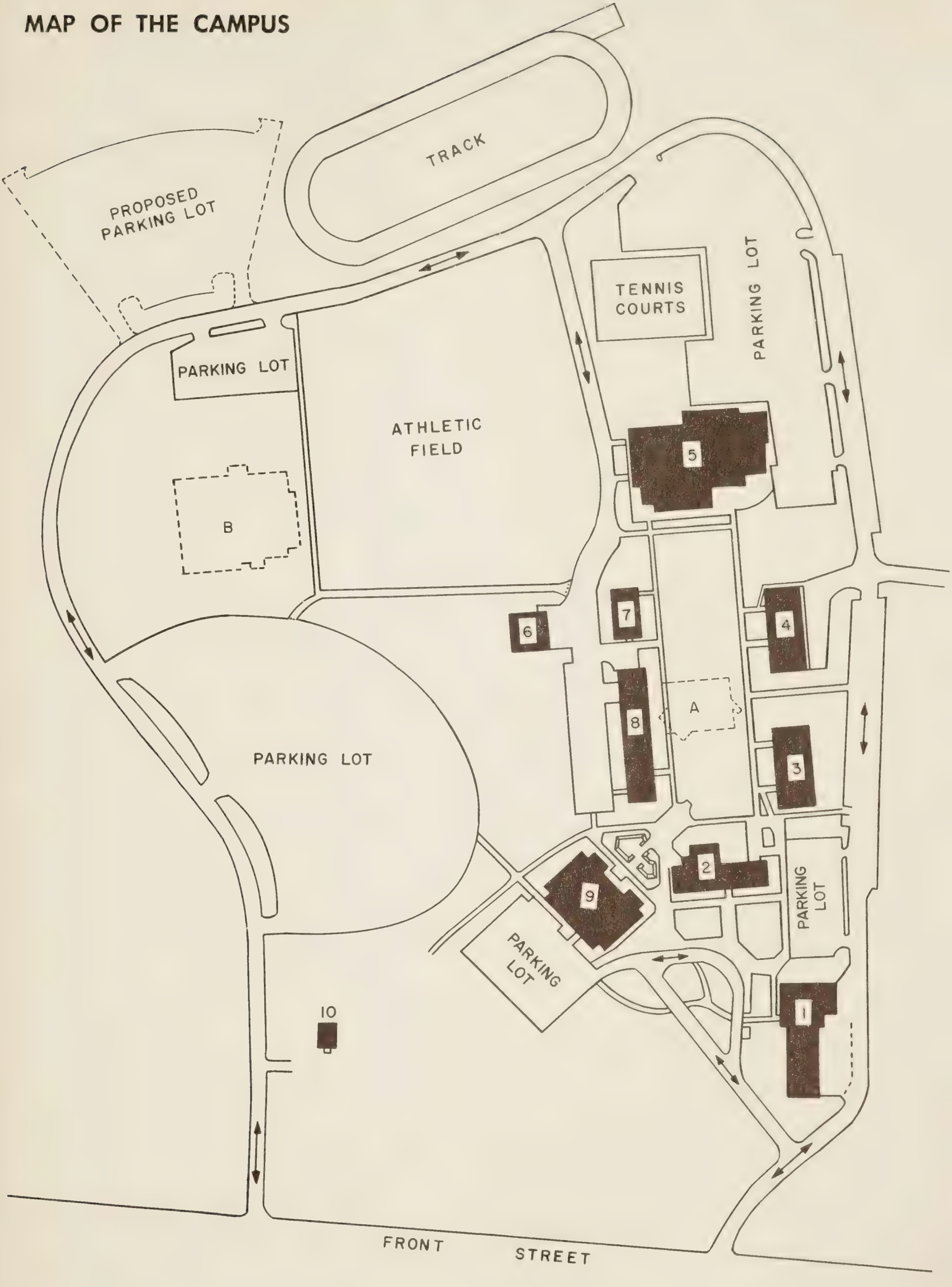
Westchester Community College
Valhalla

MAP OF THE CAMPUS

1. TITCHENER HALL
   - Engineering Science
   - Liberal Arts
   - Audio-Visual Center
   - Nuclear Physics Laboratory
   - Student Lounge
2. ADMINISTRATION BUILDING
   - Administrative Offices
   - Admissions Office
   - Computing Center
   - Business Division
   - Student Personal Office
3. SCIENCE BUILDING
   - Chemical Technology
   - Dental Hygiene
4. ELECTRICAL BUILDING
   - Electrical Technology
5. STUDENT CENTER
   - Bookstore
   - Cafeteria
   - Gymnasium
   - Little Theater
   - Student Lounge
6. MAINTENANCE BUILDING
7. TEMPORARY BUILDING
   - Classrooms
8. MECHANICAL BUILDING
   - Civil Technology
   - Mechanical Technology
   - Faculty Offices including
     - Environmental Health Technology,
     - Medical Laboratory Technology,
     - Liberal Arts and Business
9. THE LIBRARY
   - Health Service Office
   - Student Lounge
   - Department Offices
     - Medical Laboratory Technology
     - Medical Office Assistant
     - Medical Record Technology
     - Nursing
     - X-Ray Technology
10. FACULTY OFFICES

A. Site of new Business Building
B. Site of new Physical Education Building

MAP OF THE CAMPUS



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CALENDAR 1971-72

SUMMER TERM 1971

June 14	7:40 a.m.	Classes begin
June 25		Last day to drop courses without grade
July 5		Independence Day recess
July 9		Last day to drop courses with "W" grade
Aug. 24		Last day of classes
Aug. 25, 26, 27		Examinations
Aug. 31	8:00 a.m.	Final grades due

FALL TERM 1971

Sept. 13	7:40 a.m.	Classes begin
Sept. 24		Last day to drop courses without grade
Oct. 8		Last day to drop courses with "W" grade
Oct. 18	8:00 a.m.	Mid-term grades due
Nov. 19		Last day of classes
Nov. 22, 23		Make-up days
Nov. 24	Until 12:30 p.m.	Study day
Nov. 25-28		Thanksgiving recess
Nov. 29, 30		Examinations
Dec. 1		Study day
Dec. 2, 3		Examinations
Dec. 8	8:00 a.m.	Final grades due

WINTER TERM 1971-72

Dec. 13	7:40 a.m.	Classes begin
Dec. 23		Last day of classes prior to Christmas recess
Jan. 3	7:40 a.m.	Classes resume
Jan. 3		Last day to drop courses without grade
Jan. 17		Last day to drop courses with "W" grade
Jan. 25	8:00 a.m.	Mid-term grades due
Feb. 28		Last day of classes
Feb. 29		Make-up day
March 1		Study day
March 2, 3, 6, 7		Examinations
March 10	8:00 a.m.	Final grades due

SPRING TERM 1972

March 20	7:40 a.m.	Classes begin
March 31		Last day to drop courses without grade
April 14		Last day to drop courses with "W" grade
April 24	8:00 a.m.	Mid-term grades due
May 26		Last day of classes
May 29		Memorial Day recess
May 30, 31		Examinations
June 1		Study Day
June 2, 3		Examinations
June 7	8:00 a.m.	Final grades due
June 9		Graduation

SUMMER TERM 1972

June 12		Classes begin
June 23		Last day to drop courses without grade
July 4		Independence Day recess
July 10		Last day to drop courses with "W" grade
Aug. 21		Last day of classes
Aug. 22		Make-up day
Aug. 23, 24, 25		Examinations
Aug. 30		Final grades due